

40 Series Corn Heads



OPERATOR'S MANUAL



Harvester Works
OM-H105650 I9

LITHO IN U.S.A.

INTRODUCTION



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

NOTE: If this corn head is attached to any combine, other than a John Deere, be certain all exposed drives are adequately shielded.

Your operator's manual contains SI Metric equivalents which follow immediately after the U.S. customary units of measure.

"Right-hand" and "left-hand" sides are determined by facing in the direction the corn head will travel.

Record your corn head serial number in the space provided on page 53.

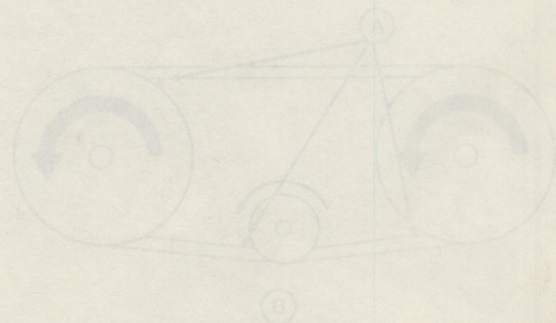
The warranty on this corn head appears on your copy of the purchase order which you should have received from your dealer when making your purchase. This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty.

Warranty and field improvements are a part of John Deere's product support program for customers who operate and maintain their equipment as described in this manual. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied.



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Safety

Safety of the operator was one of the prime considerations in the minds of John Deere engineers when this corn head was designed. Shielding, simple adjustments, and other safety features were built into the corn head wherever possible. Modifications to the machine may impair the function and/or safety and affect machine life.

NOTE: If this corn head is attached to any combine, other than a John Deere, be certain all exposed drives are adequately shielded.

SAFETY DECALS

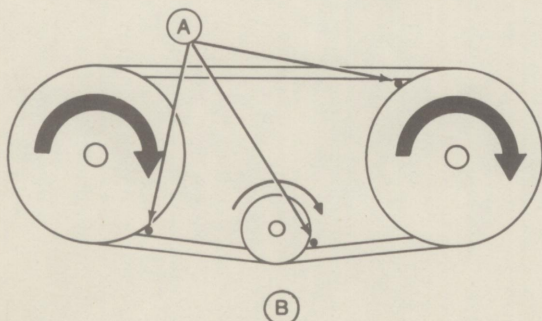


CAUTION OR WARNING: Decals with these headings and symbol indicate the possibility of personal injury.

IMPORTANT: Decals with this heading indicate the possibility of damage to the machine.

Decals are located in areas where they apply.

AVOID CONTACT WITH MOVING PARTS



H31200

Keep hands, feet, and clothing away from power-driven parts.

Never clean, lubricate, or adjust the corn head when it is running.

Never attempt to clear obstructions off the corn head unless the combine engine is shut off.

A—Pinch Points
B—Belt Drive

LEAVING COMBINE UNATTENDED

Before leaving the combine unattended, turn off engine and remove keys. Support the corn head with the hydraulic cylinder safety stop, or lower it to the ground. Place the gearshift lever in neutral and engage the parking brake. Lock cab doors on 6620, SideHill 6620, 7720, and 8820 Combines.

OPERATE SAFELY

Clothing worn by operator must be fairly tight and belted. Loose jackets, shirts, or sleeves must never be worn.

Any time work is being done under corn head, the hydraulic cylinder safety stops must be placed in the safety position. Refer to page 46.



H28929 WRONG



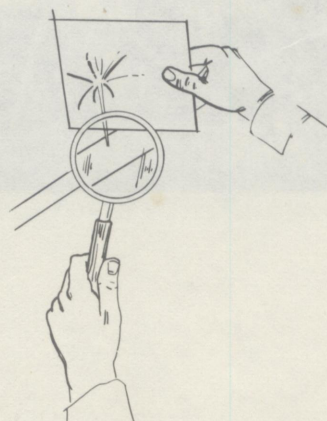
RIGHT

AVOID HIGH PRESSURE LEAKS

Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious injury. Before applying pressure to the system, all connections must be tight and lines, pipes, and hoses must be in good condition.

Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.



H33341

PROTECT AGAINST NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs (A) or earplugs (B) to protect against objectionable or uncomfortable loud noises.



A—Earmuffs
B—Earplugs

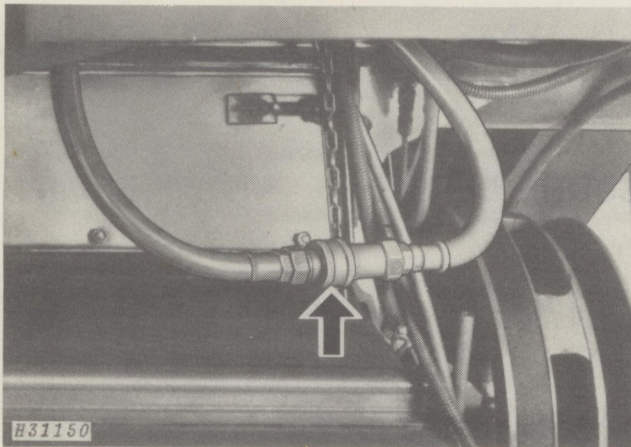
X7662



Preparing The Combine

NOTE: If the combine has been used for small grain, the following changes must be made to the combine before attaching the corn head.

FEEDER HOUSE



IMPORTANT: When hoses are disconnected from the oil lines to the motor, connect the combine pressure hose to the return hose as shown. If connection is not made, hydraulic system can be damaged as constant operation of relief valve will cause overheating.



CAUTION: Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, relieve all pressure. Before applying pressure to the system, all connections must be tight and lines, pipes and hoses must not be damaged. Oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

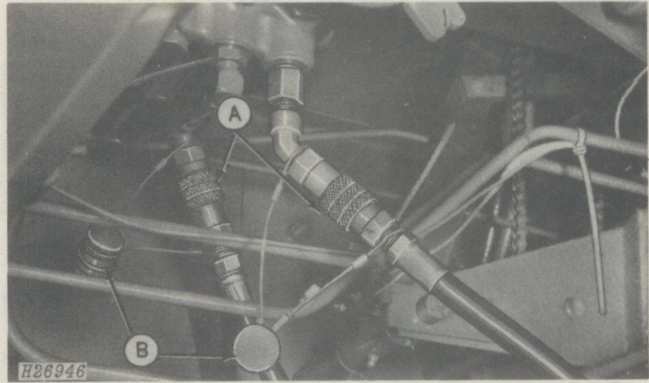
If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Connecting and Disconnecting Hoses - 3300, 4400, 4420, 6600, SideHill 6600, SideHill 6620, and 7700 Combines

Before attaching the corn head connect both hoses at quick-disconnect couplers (A) under operator's platform.

Start combine engine and move the variable speed feeder house control lever to close the top variable sheaves.

A—Quick Disconnect Couplers
B—Protective Caps

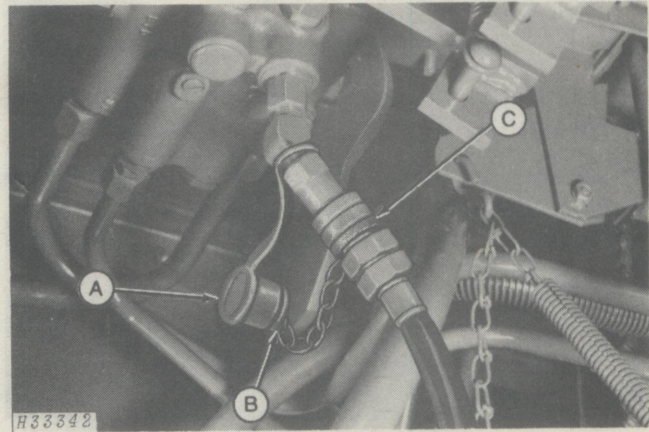


Connecting and Disconnecting Hoses - 6620, 7720, and 8820 Combines

When the hydraulic hose is connected to control valve, snap cap (A) and plug (B) together.

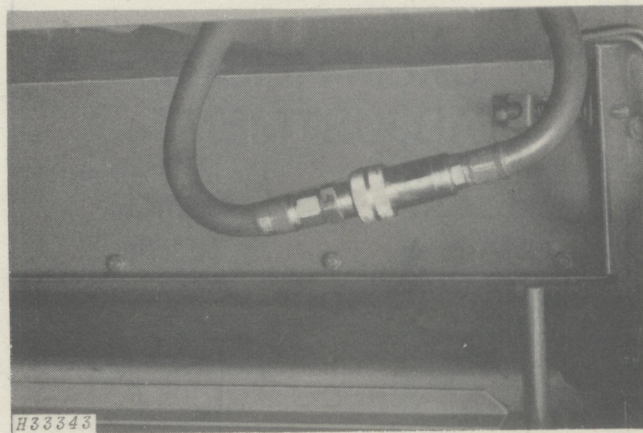
Whenever the hydraulic hose is disconnected from control valve, insert plug (B) into coupler (C) and snap cap (A) over coupler nose.

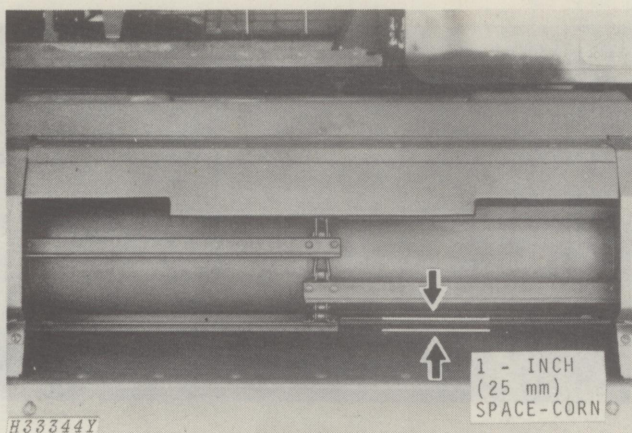
A—Cap
B—Plug
C—Quick Disconnect Couplers



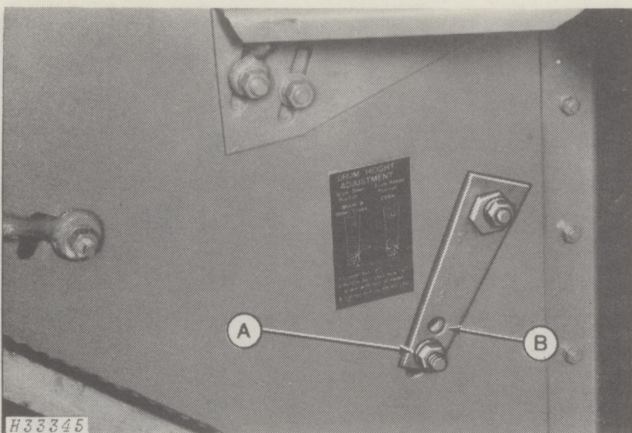
Connecting and Disconnecting Hoses - 7701 and 7721 Combines

IMPORTANT: When running the combine without the belt pickup, connect pressure line to the return line at the front of the combine to insure a free flow of hydraulic fluid to the reservoir.





6620 Combine Illustrated

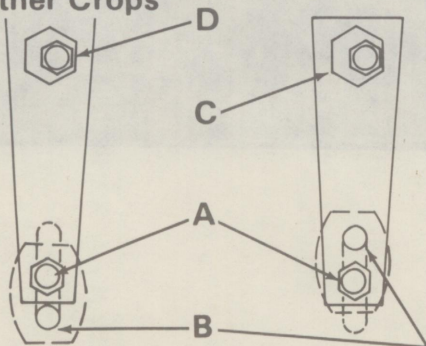


6620 Combine Illustrated

DRUM HEIGHT ADJUSTMENT

**Drum Down
Position
GRAIN &
Other Crops**

**Drum Raised
Position
CORN**



1. Loosen Nut "A."
2. Rotate bolt until hole "B" aligns with slot as shown.
3. Rotate cam "C" to achieve slat clearance for grain.
4. Retighten nut "A."

H30811

Adjusting Conveyor "Float"

Adjust conveyor float so a 1-inch (25 mm) space exists between conveyor chain slats and the feeder house bottom.

1. To obtain the 1-inch (25 mm) space, loosen nut (A).
2. Rotate bolt until hole (B) is aligned in the upper end of slot.
3. Tighten nut (A).

A—Nut
B—Hole

Drum Height Adjustment Decal

This decal appears on the lower right-hand side of the feeder house. Read it to obtain the proper drum height.

Adjusting Feeder Conveyor Drive Chain on Variable Speed Feeder House (All Combines Except SideHill 6600 and SideHill 6620 (-358900))

When combining corn, install drive chain on small sprocket (A).

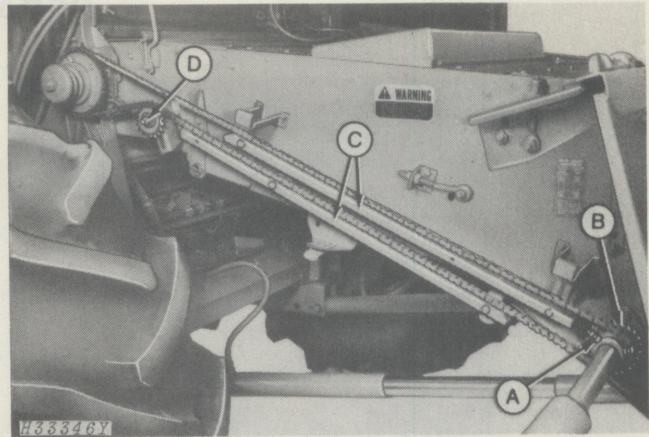
NOTE: Large sprocket (B) is used for grain.

1. Move double sprocket to align the proper sprocket with the chain guides (C).

NOTE: It may be necessary to add or remove links from the chain when changing sprockets.

2. Loosen nut (D) and push sprocket upward until the chain will operate without climbing or jumping sprockets.
3. Adjust chain guides so they are directly under the chain with a slight clearance between the chain and ends of guides.

IMPORTANT: Do not use guides as tighteners.



A—Small Sprocket
B—Large Sprocket
C—Chain Guides
D—Nut

Adjusting Feeder Conveyor Drive Chain on SideHill 6620 (403301-)

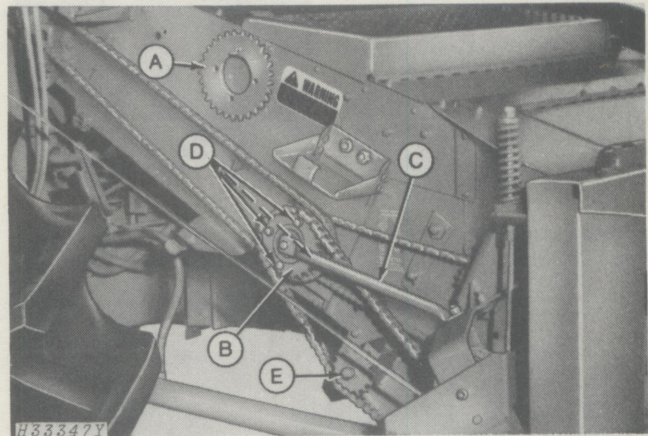
When combining corn, install drive chain on large sprocket (A).

NOTE: Small sprocket (B) is used for grain.

1. Remove brace (C) and four cap screws (D) to install proper sprocket for the crop being harvested.
2. Secure proper sprocket in place with four cap screws and secure brace.

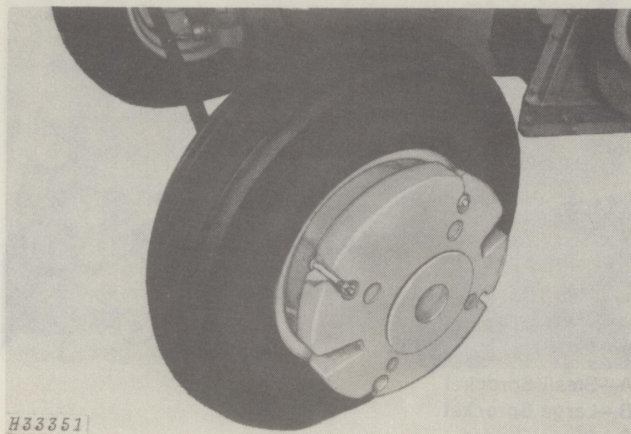
NOTE: It may be necessary to add or remove links from the chain when changing sprockets.

3. Loosen nut (E) and push sprocket down until the chain will operate without climbing or jumping sprockets.



A—Large Sprocket
B—Small Sprocket
C—Brace
D—Cap Screws
E—Nut

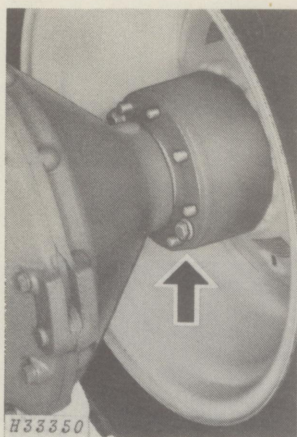
SEPARATOR



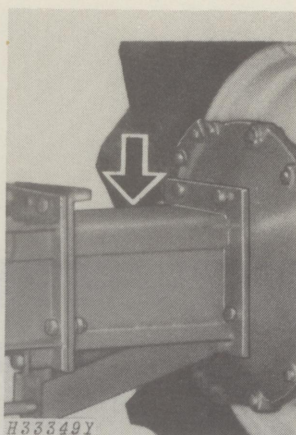
Steering Wheel Weights

Rear steering wheel weights are required for stability when using the corn head on the combine.

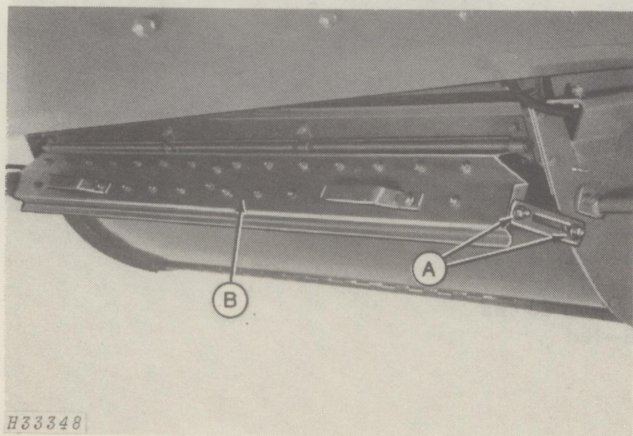
See your John Deere dealer.



Drive Wheel Hub Spacers



Axle Spacers



Front Wheel Spacing

Spacers are available to space wheels accurately between planted rows.

Position the front combine drive wheels to provide the wheel tread best suited to the row spacing of the corn to be harvested.

See your combine operator's manual for complete information on wheel spacing.

Straw Chopper (Attachment)

Loosen bolts (A) on both sides and swing knife bar (B) out. Tighten bolts (A).

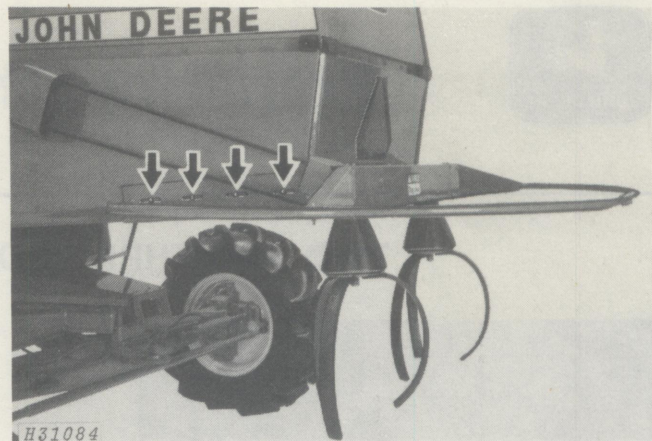
IMPORTANT: Knives must be in the "out" (minimum cutting) position for operation in corn.

A—Adjusting Bolts
B—Knife Bar

Straw Spreader (Attachment)

The drive belt must be tight enough to run without slipping.

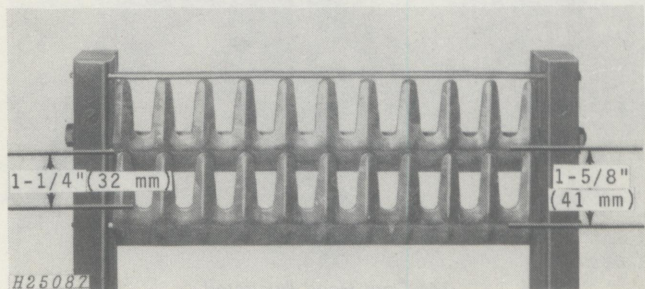
To tighten belt, loosen four cap screws (both sides), pull spreader rearward. After adjusting both sides, evenly tighten cap screws.



H31084

Chaffer for Corn

The 1-5/8-inch (41 mm) adjustable, deep tooth, wide spaced chaffer is recommended for corn. The 1-1/4-inch (32 mm) throat openings between fingers and the 1-5/8-inch (41 mm) spacing of the vanes provide the most capacity available.



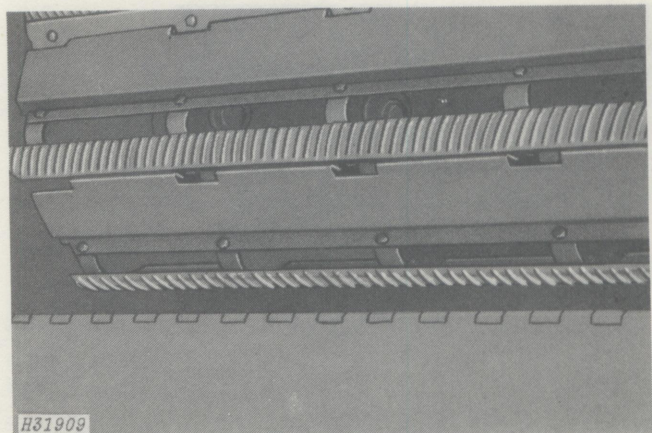
H2508Z

Cylinder Filler Plates

When operating the combine in corn, install filler plates between the rasp bars. These plates increase efficiency by keeping ears from feeding between the rasp bars without being shelled. In rocky fields, they also help deflect stones into the stone trap.

The filler plates do not have to be removed when harvesting grain.

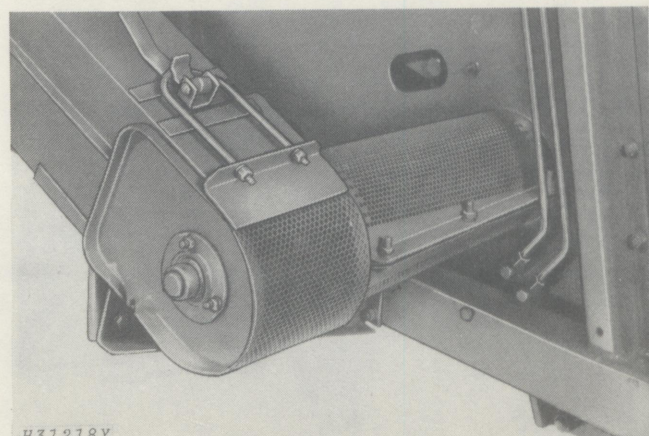
Tighten filler plate cap screws to 35 ft-lbs (45 Nm) (4.5 kgm) torque.



H31909

Perforated Parts (Attachment)

Perforated parts are available from your John Deere dealer, to help remove dirt and weed seed from the shelled corn.

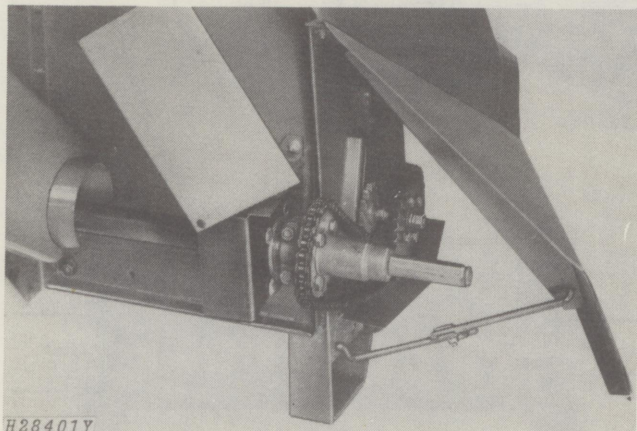


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Preparing The Corn Head

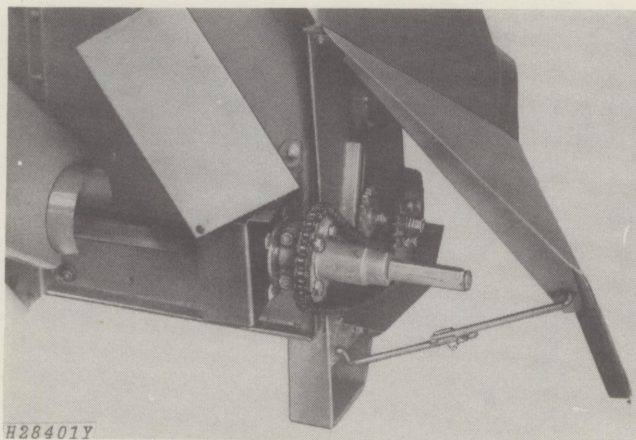
TWO AND THREE ROW CORN HEADS ONLY



244 Corn Head Illustrated

NOTE: For mounting of a corn head on a forage harvester or a corn husker see the operator's manual for forage harvesters or corn huskers.

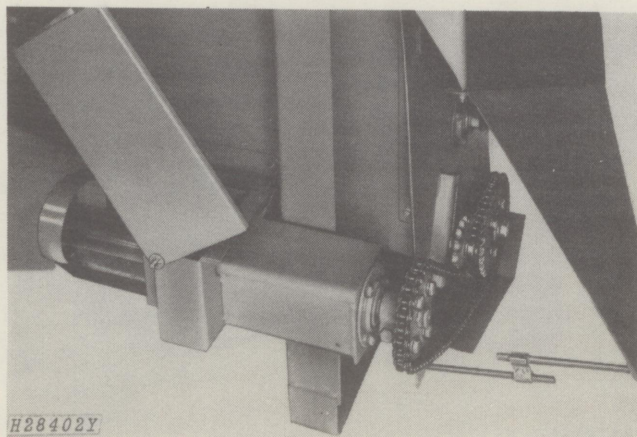
Before mounting the 243, 244, 343 or 344 Corn Head on the combine, adjust the wheel shields far enough outward so the combine drive wheels do not strike them when the combine is driven forward.



244 Corn Head Illustrated

244 and 343 Corn Head Drive Parts

The drive parts for the 244 and 343 must be mounted on the back side of the feeder house and removed when a different corn head or header is used.



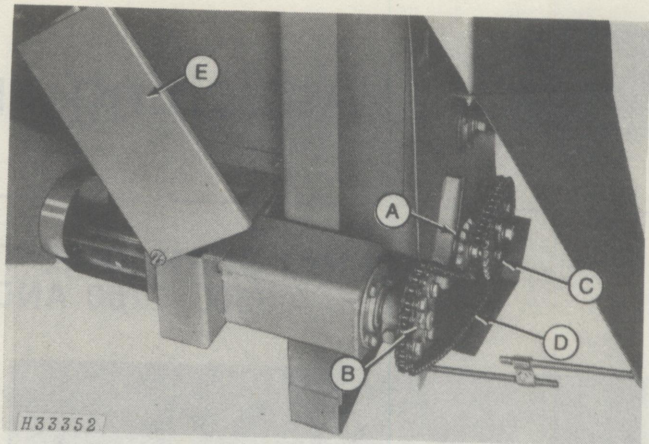
343 Corn Head Illustrated

Installing Sprockets and Drive Chain on Combines For 244 and 343 Corn Heads

Loosen tightener (A) and slip the 24-tooth drive sprocket (B) and hub on feeder house drive shaft. Align 30-tooth drive sprocket (C) with driven sprocket and tighten hub clamp bolt.

Install chain (D) on sprockets and adjust chain tension with tightener (A). Lower drive shield (E).

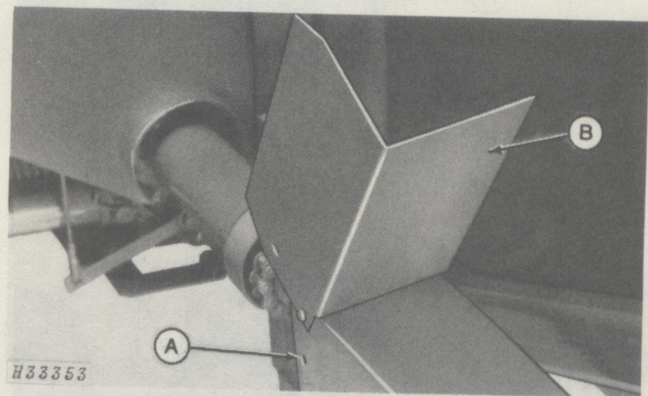
- A—Tightener
- B—24-Tooth Sprocket
- C—30-Tooth Sprocket
- D—Chain
- E—Drive Shield



FOUR, FIVE, SIX AND EIGHT ROW CORN HEADS

On 443, 444, 546, 643, 644, 645, and 843 Corn Heads, remove and discard bolt (A) from the cover and transverse shields on both sides of the corn head. Position shields (B) up as shown. This will prevent damage to the shields when the combine is driven forward.

- A—Bolt
- B—Shield

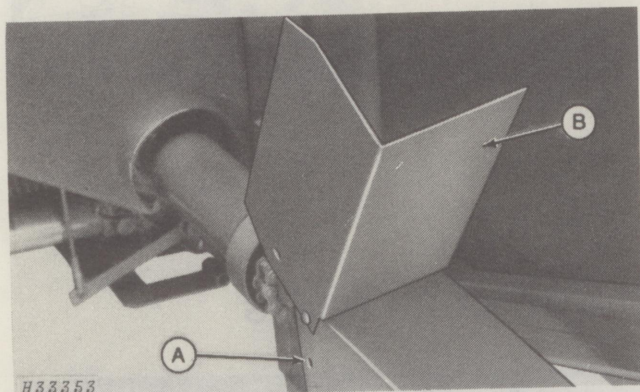


843 Corn Head Drive Illustrated



Attaching and Detaching

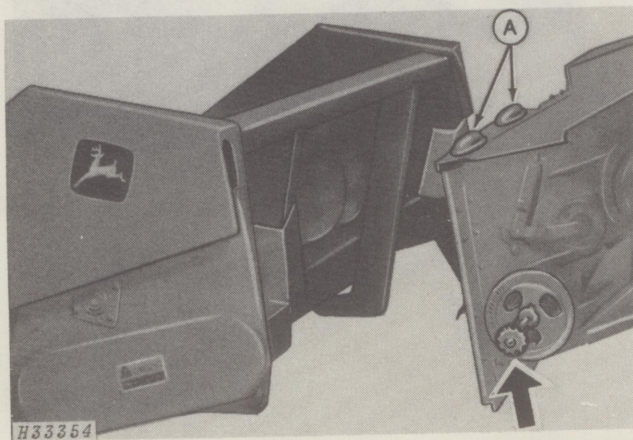
ATTACHING CORN HEAD TO 3300, 4400 (-350000), 6600, 7700 AND 7701 COMBINES



843 Corn Head Drive Illustrated

1. On all corn heads but two and three row models, remove and discard bolt (A) from shield (B) on both sides. Swing shield up to prevent damage when attaching corn head.

A—Bolt
B—Shield



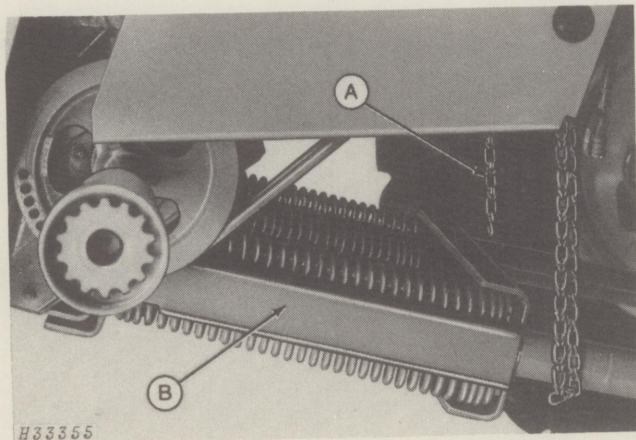
A—Pivot Blocks

NOTE: The 344 corn head requires one driven coupler. The 443, 444, 546, 643, 644, 645 and 843 corn heads require two drive couplers, use couplers shipped with feeder house.

2. Install coupler on lower feeder house shaft.
3. Start engine and lower feeder house.
4. Move combine slowly forward until feeder house is centered in corn head opening. Raise feeder house, lifting corn head all the way up. Shut off engine.

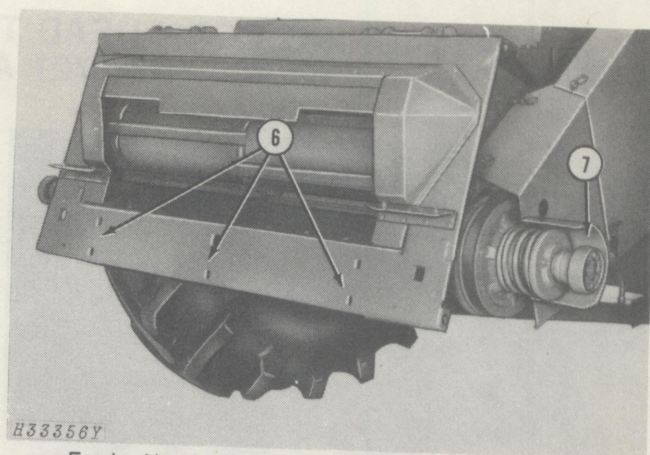
IMPORTANT: Pivot blocks (A) on feeder house should be properly seated in pocket under top beam of header.

5. Disconnect chain (A) and lower hydraulic cylinder safety stop (B) on lift cylinder.



A—Support Chain
B—Safety Stop

6. Secure corn head to feeder house with three $1\frac{1}{2}$ x $1\frac{1}{2}$ -inch round head bolts and $17/32$ x $1\frac{1}{4}$ x .180-inch flat washers in bottom holes.



Feeder House Lower Attaching Plate Bolt Locations

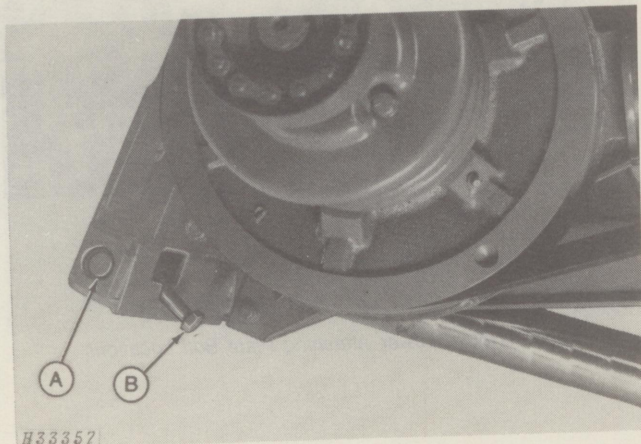
7. Place roller chain around sprockets, slide coupler over sprockets and chain. Position shield over coupler. Repeat procedure on other side.

DETACHING CORN HEAD FROM 3300, 4400 (6600, 7700 AND 7701 COMBINES

-350000),

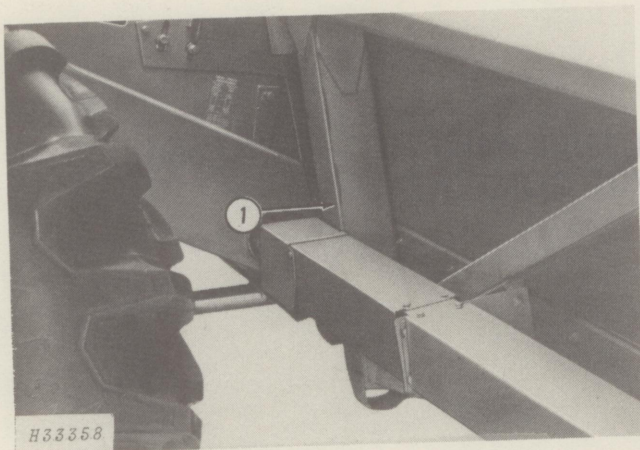
1. Start engine and raise corn head all the way up. Shut off engine.
2. Disconnect chain and lower hydraulic cylinder safety stop on lift cylinder.
3. Swing shield up, slide coupler off sprockets and chain, and remove coupler chain. Repeat procedure on other side.
4. Remove three $1\frac{1}{2}$ x $1\frac{1}{2}$ -inch round head bolts and $17/32$ x $1\frac{1}{4}$ x .180-inch flat washers.
5. Raise hydraulic cylinder safety stop and hook chain.
6. Start engine and lower feeder house until corn head is on the ground and attaching blocks are free.
7. Move combine slowly rearward until feeder house is clear of corn head.

ATTACHING CORN HEAD TO 4400 (350001-6620, 7720, 7721 AND 8820 COMBINES), 4420,



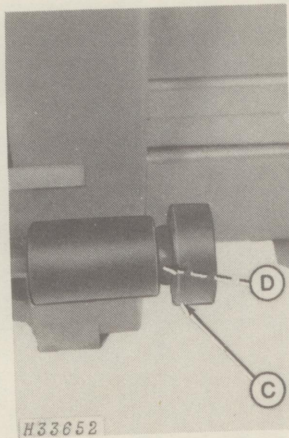
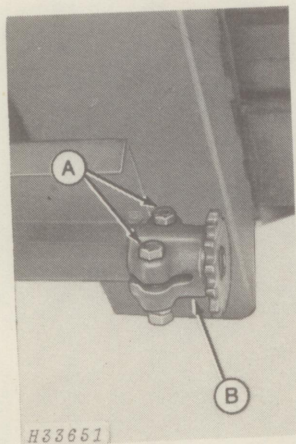
IMPORTANT: Lock pin (A) (both sides) must be positioned in before attaching header. Position pin by sliding stop bolt (B) in and then pivoting it down. If pins are left in the out position, the feeder house will be damaged when mounting a header.

A—Lock Pin
B—Stop Bolt



1. Install coupler on lower feeder house shaft.

NOTE: Two couplers, shipped with the feeder house, are used on 443, 444, 546, 643, 644, 645, 842, 843, and 844 corn heads.



An extra coupler is shipped with the 8820 Combine for use on all corn heads but the 844 and must be installed as follows:

Loosen two cap screws (A) and slide clamp coupler (B) off shaft.

Slide quik coupler (C) on shaft and secure with snap ring (D).

Relocate cover on transverse drive shield.

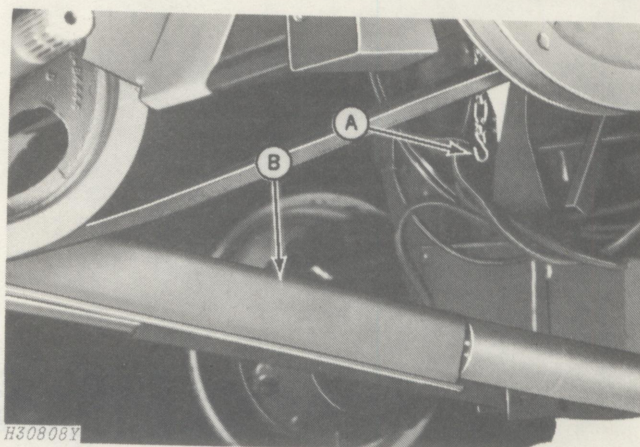
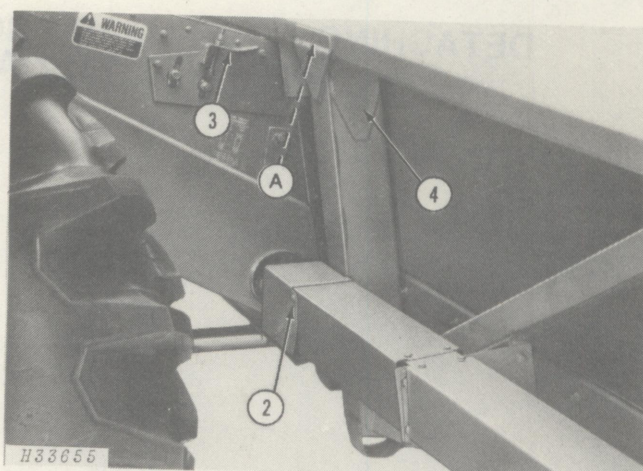
A—Cap Screws
B—Clamp Coupler
C—Quik Coupler
D—Snap Ring

Cover Removed for Illustrative Purposes

2. On all corn heads but 2 and 3 row models, remove and discard bolt from shield on both sides. Swing shield up to prevent damage when attaching corn head.
3. Start engine and lower feeder house.
4. Move combine slowly forward until feeder house is centered in corn head opening. Raise feeder house, lifting corn head, all the way up. Shut off engine.

IMPORTANT: Pivot blocks (A) on feeder house should be properly seated in pocket under top beam of header.

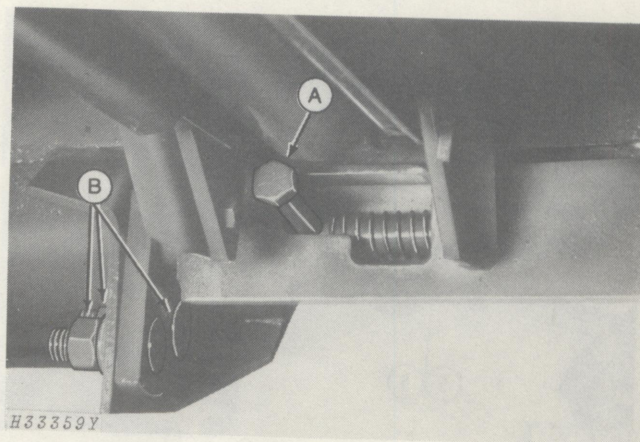
5. Disconnect chain (A) and lower hydraulic cylinder safety stop (B) on lift cylinder.



A—Support Chain
B—Safety Stop

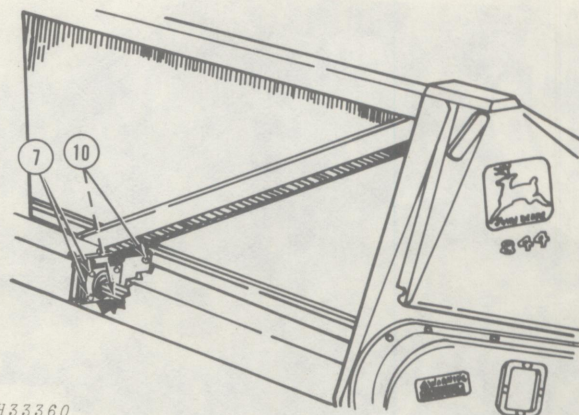
6. Pivot stop bolt (A) up, allowing lock pin to lock into header. Repeat procedure for other side.

NOTE: Loosen the mating lock plate (B) on the corn head to allow the lock pin to center.



A—Stop Bolt
B—Lock Plate

7. (844 only) Loosen (and leave loose) the four bolts in the bearing retainers. Be certain bearing retainers are loose. Repeat procedure on other side.
8. Place roller chain around sprockets, slide coupler over sprockets and chain and position shield over coupler. Repeat procedure for other side.
9. (844 only) Start combine engine and engage header with engine at slow idle. Allow drive shafts to align, disengage header, and shut off engine.
10. (844 only) Tighten the four bolts in the bearing retainers. Repeat procedure for other side. Corn head is now aligned to combine.

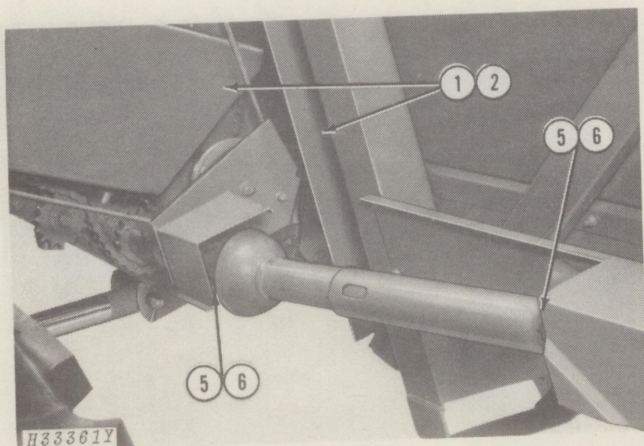


H33360

DETACHING CORN HEAD FROM 4400 (350001-), 4420, 6620, 7720, 7721 AND 8820 COMBINES

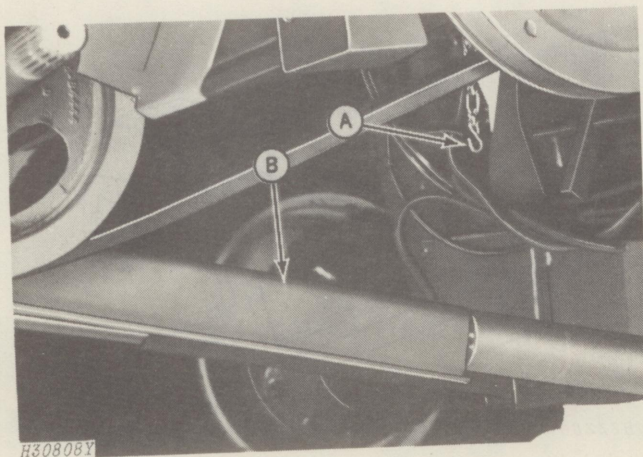
1. Start engine and raise corn head all the way up. Shut off engine.
2. Disconnect chain and lower hydraulic cylinder safety stop on lift cylinder.
3. Swing shield up, slide coupler off sprockets and chain and remove coupler chain. Repeat procedure on other side.
4. Slide and pivot stop bolt down, allowing lock pin to unlock the corn head. Repeat procedure on other side.
5. Raise hydraulic cylinder safety stop and hook chain.
6. Start engine and lower feeder house until corn head is on the ground and attaching blocks are free.
7. Move combine slowly rearward until feeder house is clear of the corn head.

ATTACHING CORN HEAD TO SIDEHILL 6600 AND SIDEHILL 6620 (-358900)



1. Start engine and lower feeder house.
2. Move combine slowly forward until feeder house is centered in corn head opening. Raise feeder house, lifting corn head, all the way up. Shut off engine.

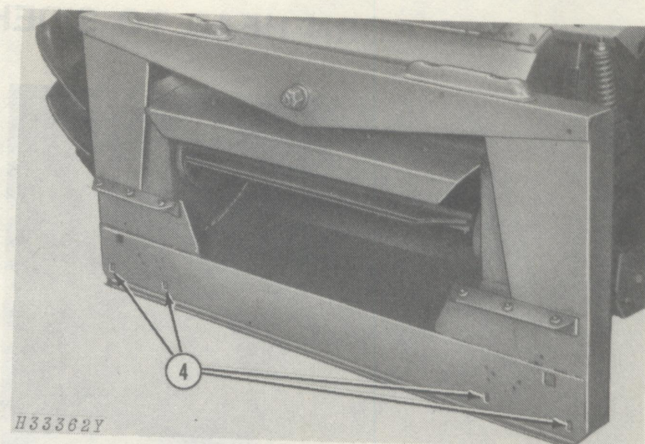
IMPORTANT: Pivot blocks on feeder house should be properly seated in pocket under top beam of header.



3. Disconnect chain (A) and lower hydraulic cylinder safety stop (B) on lift cylinder.

A—Support Chain
B—Safety Stop

4. Secure corn head to feeder house with four 1/2 x 1-1/2-inch round head bolts and 17/32 x 1-1/4 x .180-inch flat washers.
5. Install telescoping drive shaft between corn head and feeder house.
6. Install roll pin and tighten clamp on each end of telescoping drive shaft.

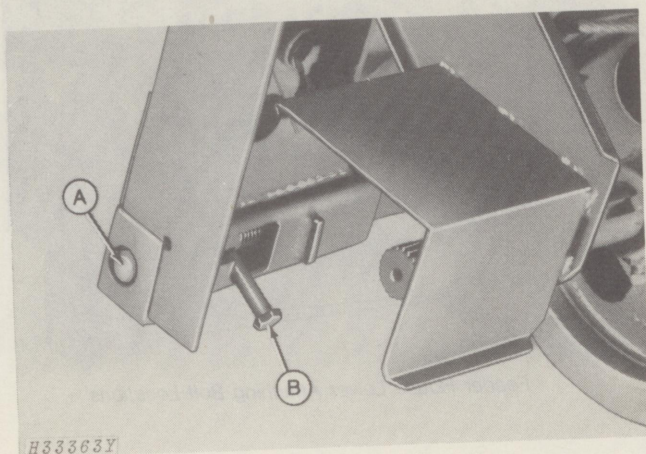


Feeder House Lower Attaching Bolt Locations

DETACHING CORN HEAD FROM SIDEHILL 6600 AND SIDEHILL 6620 (-358900) COMBINES

1. Start engine and raise corn head all the way up. Shut off engine.
2. Disconnect chain and lower hydraulic cylinder safety stop on lift cylinder.
3. Loosen clamp and disconnect telescoping drive shaft. Repeat procedure on other side.
4. Remove four 1/2 x 1-1/2-inch round head bolts and 17/32 x 1-1/4 x .180-inch flat washers.
5. Raise hydraulic cylinder safety stop and hook chain.
6. Start engine and lower feeder house until corn head is on the ground and attaching blocks are free.
7. Move combine slowly rearward until feeder house is clear of the corn head.

ATTACHING CORN HEAD TO SIDEHILL 6620 (403301-) COMBINES

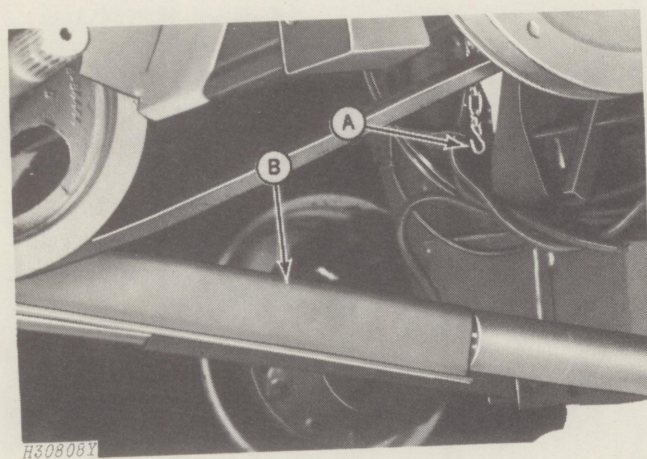


IMPORTANT: Lock pin (A) (both sides) must be positioned in before attaching header. Position pin by sliding stop bolt (B) in and then pivoting it down. If pins are left in the out position, the feeder house will be damaged when mounting a header.

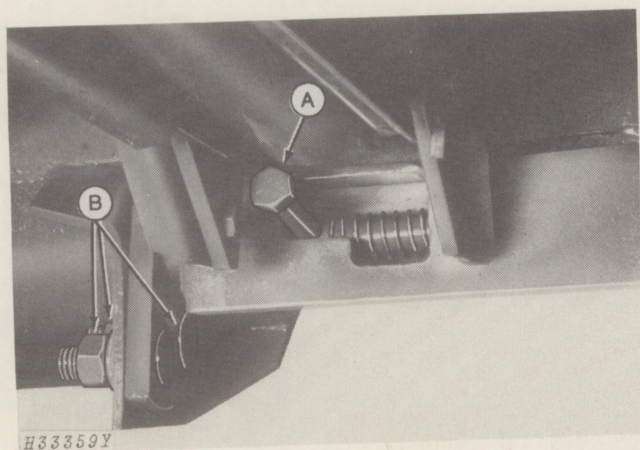
1. Start engine and lower feeder house.
2. Move combine slowly forward until feeder house is centered in corn head opening. Raise feeder house, lifting corn head, all the way up. Shut off engine.

A—Lock Pin
B—Stop Bolt

IMPORTANT: Pivot blocks on feeder house should be properly seated in pocket under top beam of header.



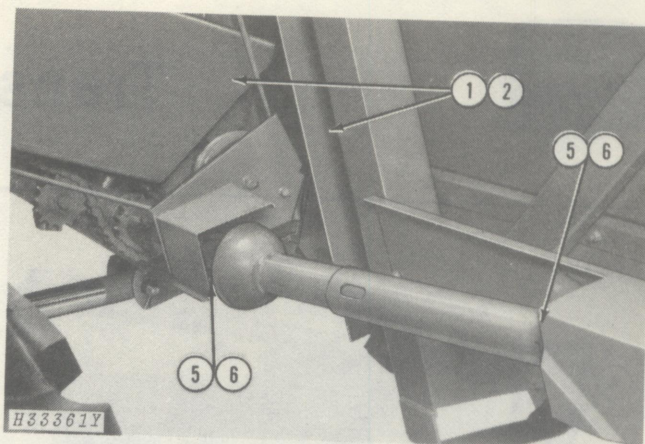
3. Disconnect chain (A) and lower hydraulic cylinder (B) on lift cylinder.



4. Pivot stop bolt (A) up, allowing lock pin to lock into corn head. Repeat procedure for other side.

NOTE: Loosen the mating lock plate (B) on the corn head, to allow the lock pin to center.

5. Install telescoping drive shaft between corn head and feeder house.
6. Tighten clamp on each end of telescoping drive shaft.



DETACHING CORN HEAD FROM SIDEHILL 6620 (403301-) COMBINES

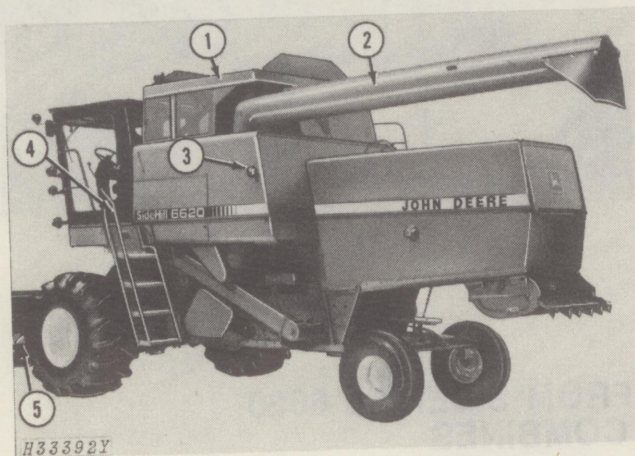
1. Start engine and raise corn head all the way up. Shut off engine.
2. Disconnect chain and lower hydraulic cylinder safety stop on lift cylinder.
3. Loosen clamp and disconnect telescoping drive shaft. Repeat procedure on other side.
4. Slide and pivot stop bolt down, allowing lock pin to unlock the corn head. Repeat procedure on other side.
5. Raise hydraulic cylinder safety stop and hook chain.
6. Start engine and lower feeder house until corn head is on the ground and attaching blocks are free.
7. Move combine slowly rearward until feeder house is clear of the corn head.

ATTACHING CORN HEAD TO FORAGE HARVESTER OR CORN HUSKER

For attaching the corn head on a forage harvester or a corn husker see the operators manual for that machine.



Transporting



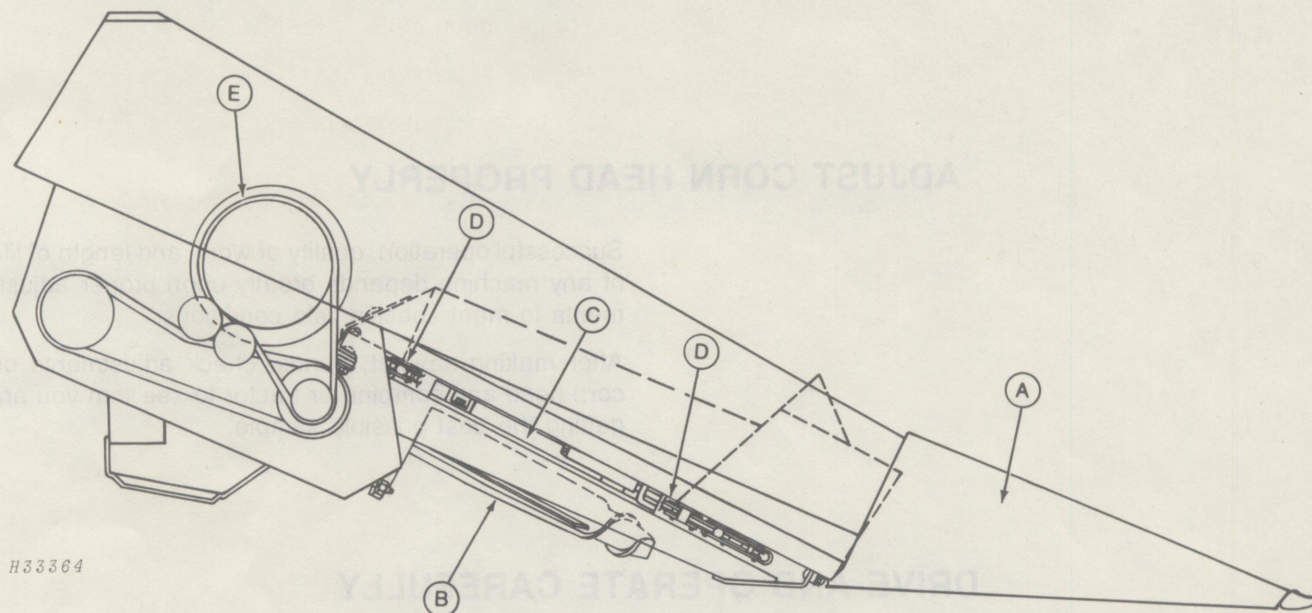
The corn head can be transported by leaving it attached to the combine.

1. Empty grain tank.
2. Swing unloading auger back.
3. Turn on combine flashing warning light, unless prohibited by local law.
4. Couple combine brake pedals together.
5. Raise corn head to a position that will keep it off the ground but still allow good visibility.



Operating the Corn Head

GENERAL INFORMATION



H33364

The gatherer points (A) are positioned between the rows of corn. Stalk rolls (B) grab the corn stalks and pull them rapidly down between the rolls.

When an ear of corn reaches the deck plate (C), the ear is prevented from going through because of the narrow opening. The stalk rolls continue to pull on the stalk and snap the ear free of the stalk.

Gatherer chains (D) catch the ears and carry them to an auger (E) which delivers the ears to the feeder conveyor. The feeder conveyor delivers the ears to the threshing cylinder.

- A—Gatherer Point
- B—Stalk Rolls
- C—Deck Plate
- D—Gatherer Chain
- E—Auger

STARTING IN THE FIELD

Operate the combine or tractor in a lower gear until you become familiar with the corn head. Harvest the rows as they were planted so it will not be necessary to pick odd or guess rows.

After making several rounds, stop the corn head and shut off engine. Check all bearings for heating. All bolts must be tight and chains properly adjusted.

ADJUST CORN HEAD PROPERLY

Successful operation, quality of work, and length of life of any machine depends greatly upon proper adjustments to meet specific field conditions.

After making several rounds, check adjustments on corn head and combine or tractor to see that you are getting the best possible sample.

DRIVE AND OPERATE CAREFULLY

Drive carefully so the corn head will stay on the rows. Never force the corn head or combine to the point of overloading. Overloading can cause breakdowns. Start out in a lower gear and increase speed until you find the proper ground speed in which to operate.

Listen for slipping clutches or other unusual noises. If the corn head becomes plugged, clean it out, do not decrease engine speed. Keep the engine operating speed and decrease the ground speed until the corn head has been cleared.

IMPORTANT: The forward movement of the combine must be approximately the same as the rearward movement of the gathering chain flights or plugging can result.

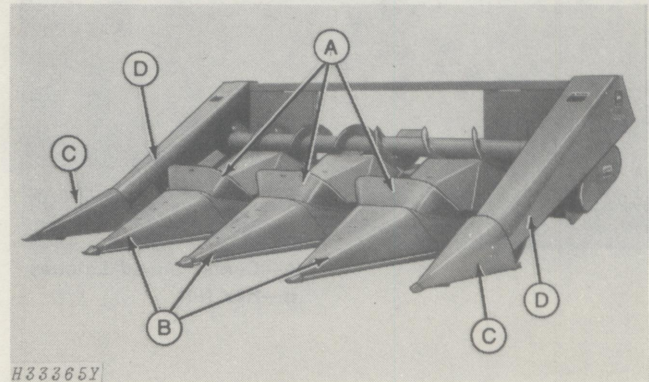
GATHERERS

For most conditions operate front of gatherer points just touching the ground.

In muddy conditions or in snow, adjust gatherer points high enough to prevent scooping material into throat opening.

Adjust all points level with one another.

- A—Center Shield Extensions
- B—Center Gatherer Points
- C—Outer Gatherer Points
- D—Outer Gatherer Sheets



H33366Y

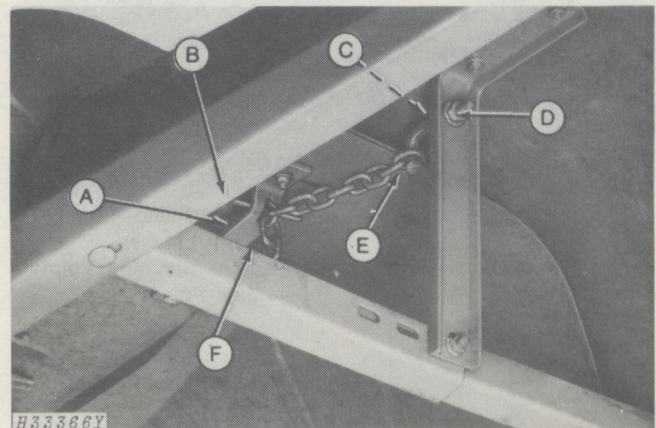
Adjusting And Leveling Gatherer Points

1. **CAUTION:** Raise corn head and lower safety stop before working under header. Shut off engine.

Start with one of the outer gatherer points and level all other points the same.

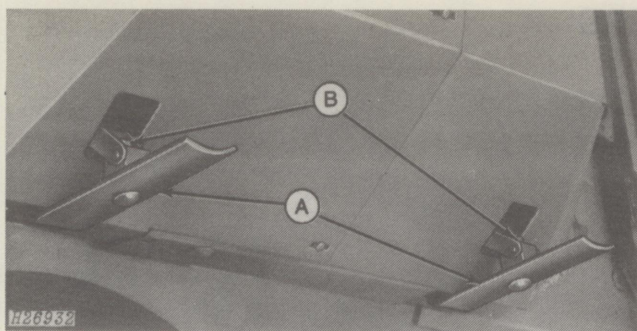
2. Insert chain link through point support (A) and secure with spring locking pin (B).
3. Adjust all gatherer points for desired operating height.
4. To level gatherer points, adjust nuts (C) and (D) on hook bolt (E).
5. To raise gatherer point, loosen nut (C) and tighten nut (D).
6. To lower gatherer point, loosen nut (D) and tighten nut (C).

IMPORTANT: Lock nuts (C) and (D) against spacer in reinforcement brace after adjusting gatherer point. Tighten to 50 ft-lbs (68 Nm) (7 kgm) torque.

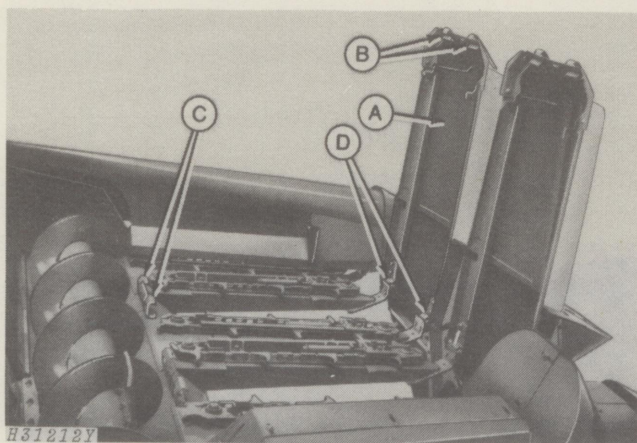


H33366Y

- A—Point Support
- B—Spring Locking Pin
- C—Nut
- D—Nut
- E—Hook Bolt
- F—Chain



A—Center Shield Latches
B—Hex Nut



A—Center Shield
B—Center Latches
C—Latch Attaching Points
D—Hinge Points

Adjusting Center Shield Latches

Center shield latches (A) are slotted.

To adjust, open latches and loosen hex nut (B) on carriage bolt that attaches latch to pivot.

Adjust latches so center shield is held down tight when latches are closed.

A force of 25 lbs (11.3 kg) is required to snap latch closed.

Raising and Removing Center Gatherer Shields, Shield Extensions and Points

The center shield (A) is held in place by two latches (B). The latches must be secured while operating.

1. **CAUTION:** Never run corn head with center shields (A) raised or removed. Always shut off engine before leaving machine.

To raise center shield (A) forward as shown, first start engine and raise the corn head as high as possible.

2. Lower hydraulic cylinder safety stop and shut off engine.

3. **CAUTION:** When corn head is raised and cylinder safety stop is in safety position the center shield, extension and point assembly will be free to become unhooked.

Release the center shield latches (B) from their attaching points (C) and raise center shield (A).

4. **CAUTION:** Center shield with extension and point is heavy and awkward to handle.

With center shield raised, lift assembly off row unit at hinge points (D).

5. Repeat above steps in reverse order to install center shield, shield extension and gatherer point assembly.

Raising and Removing Outer Gatherer Sheets and Points

Both outer gatherer sheets (A) may be raised or removed for access to the outer row unit.

1. To raise outer gatherer sheet loosen wing nut (B), unlatching gatherer sheet.
2. **CAUTION:** Support strap (B) must be locked into position shown when outer gatherer sheet is raised.

Raise gatherer sheet and lock support strap (C) into position.

3. **CAUTION:** When corn head is raised and cylinder safety stop is in safety position, the outer gatherer sheet and point assembly will be free to become unhooked after safety strap is removed.

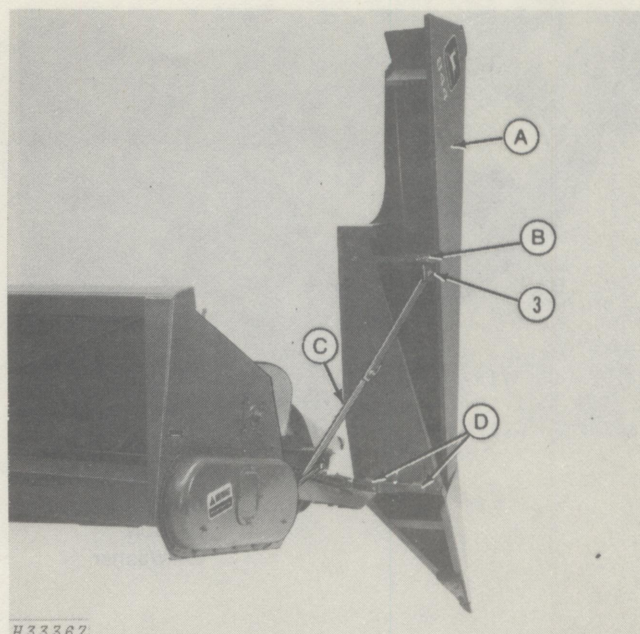
With outer gatherer sheet raised, remove hardware attaching support strap to gatherer sheet.

4. **CAUTION:** Outer gatherer sheet with gatherer point is heavy and awkward to handle.

Lift outer gatherer sheet and point assembly off row unit at hinge points (D).

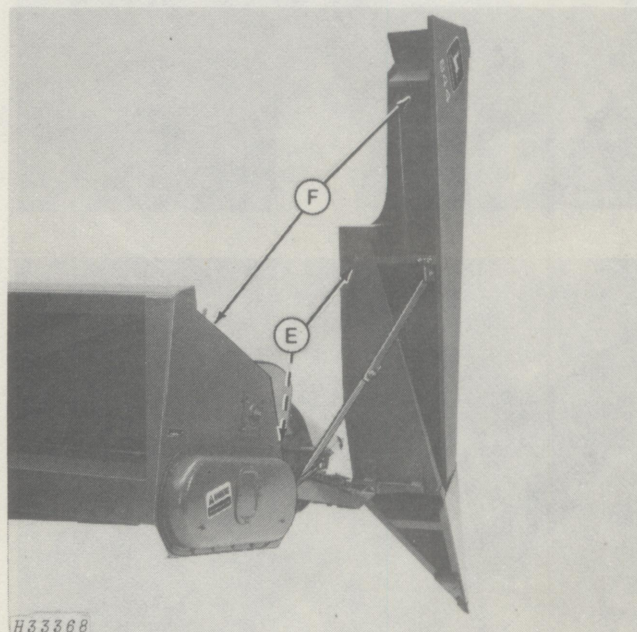
5. Repeat above steps in reverse order to install outer gatherer sheet and point assembly.

IMPORTANT: When reinstalling outer gatherer sheet, be certain locator pin and hole (E) are properly aligned. Pin and slot (F) must be secure before tightening outer gatherer point with wing nut.



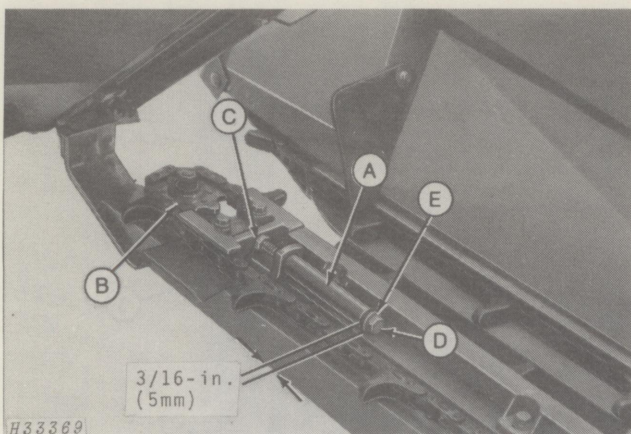
H33367

A—Outer Gatherer Sheets
B—Wing Nut
C—Support Strap
D—Hinge Points

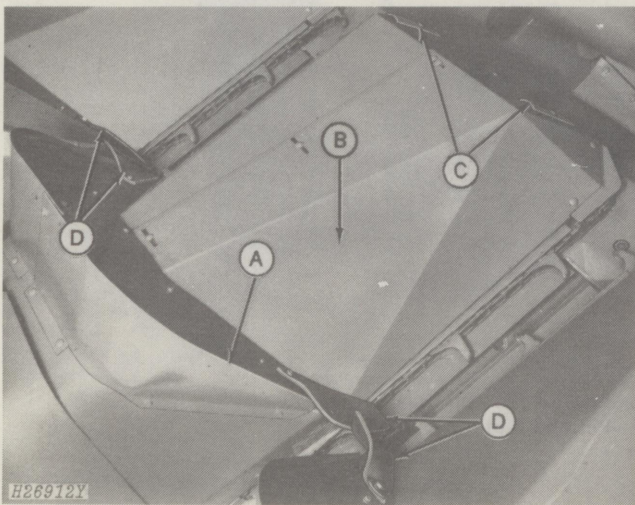
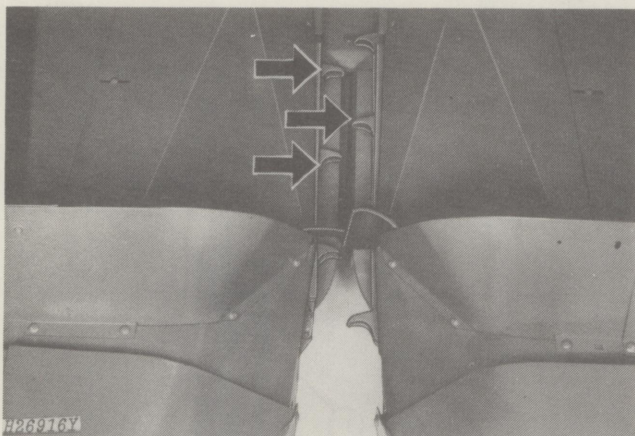


H33368

E—Locator Pin and Hole
F—Pin and Slot



A—Spacer Tube
B—Idler Sprocket
C—Nut
D—Bolt
E—Washer



A—Center Shield Extension
B—Center Shield
C—Center Shield Latches
D—Ear Savers

Adjusting Gatherer Chain Tension

Gatherer chain tension is maintained by a spring-loaded tightener. The spring is shielded by a spacer tube (A) that also serves as a stop to prevent the idler sprocket (B) from retracting too far.

To increase gatherer chain tension, loosen nut (C) and tighten bolt (D).

To prevent chain from running off idler sprocket maintain a 3/16-inch (5 mm) space between the spacer tube (A) and washer (E).

The 3/16-inch (5 mm) space between the spacer tube and washer will allow the idler sprocket to move back if an obstruction is encountered.

Adjusting Gatherer Chain Flights

The gatherer chains are assembled at the factory with the chain flights staggered between one another.

If operating in unusual field conditions, the gatherer chain flights can be positioned opposite one another for more aggressiveness. See page 47.

IMPORTANT: Be careful to avoid rocks and other obstructions in the row when running gatherers close to the ground.

Center Shield Extensions

Center shield extensions (A) are designed to catch falling ears in standing corn. When picking down corn, remove extensions to prevent interference with flow of material into gatherer throat opening.

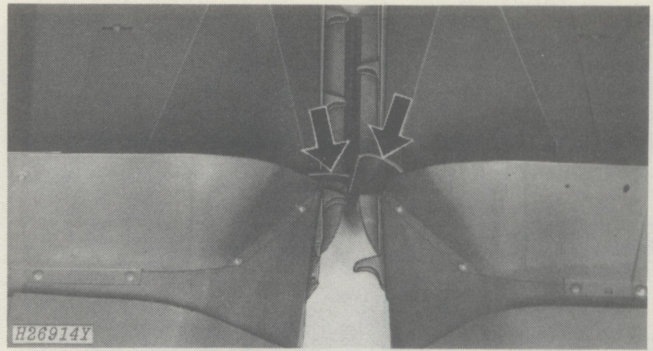
Ear Savers

Ear savers prevent loose ears from sliding over the gatherer chains to the ground.

In down corn or if stalks tend to plug up at the gatherer throat opening, remove ear savers. Retain ear savers and hardware.

In standing corn, replace ear savers to prevent ear loss.

When replacing ear savers, the inside edges must be parallel to each other before tightening lock screws.



ROW UNITS

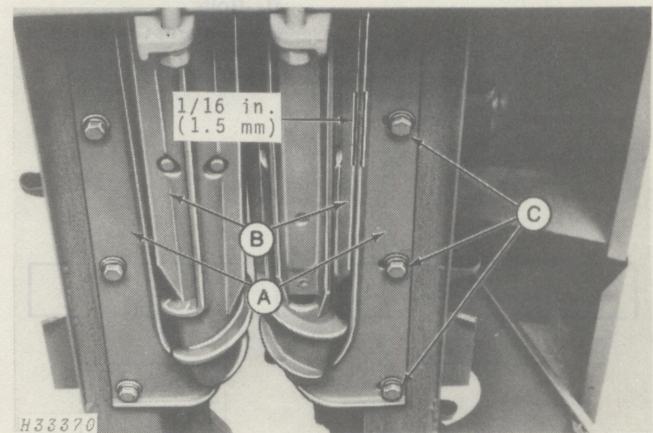
The row unit houses the trash knives, gathering chains, deck plates, and stalk rolls. Ears of corn are snapped from the stalk and conveyed to the auger by the row unit. Row unit speed and combine travel speed are directly related.

Adjusting Trash Knives

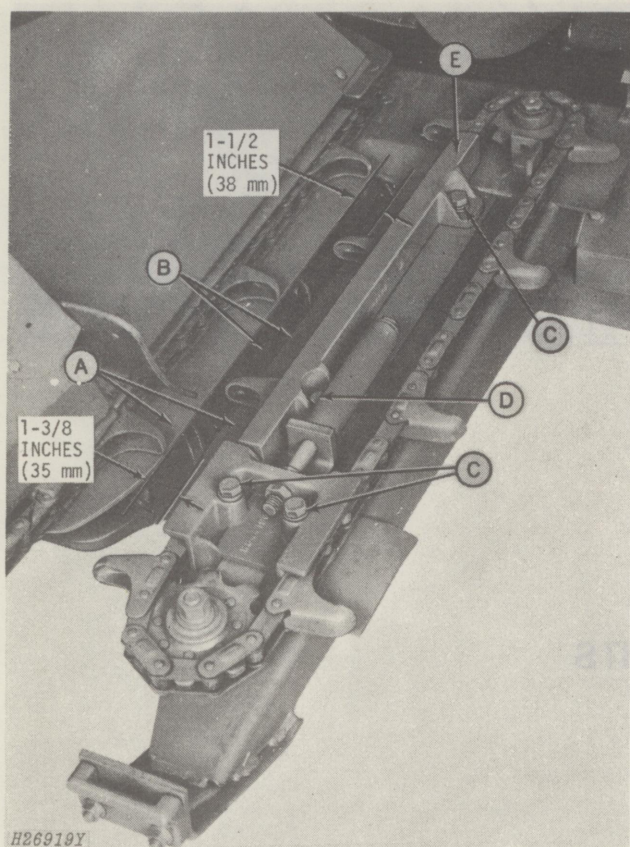
Trash knives (A) prevent weeds and trash from wrapping around stalk rolls (B).

Knives should be set as close as possible to the rolls without striking the flutes.

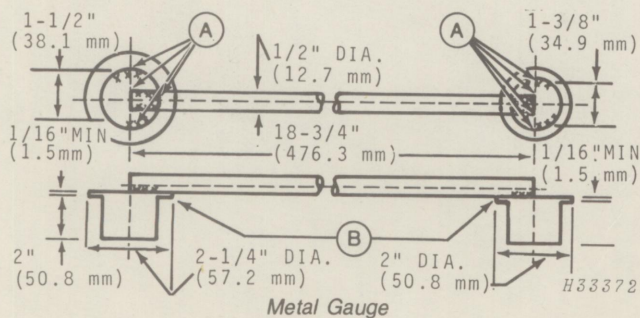
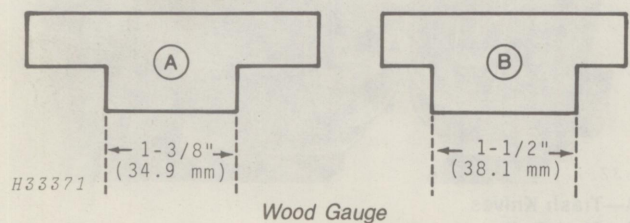
Loosen knife attaching bolts (C) and adjust each trash knife to within 1/16-inch (1.5 mm) of the highest flute on the stalk roll. Tighten bolts to 85 ft-lbs (115 Nm) (12 kgm) torque.



A—Trash Knives
B—Stalk Rolls
C—Bolts



A—Deck Plates
B—Stalk Rolls
C—Bolts
D—Bolts
E—Gatherer Chain Guide



Adjusting Deck Plates and Gatherer Chain Guides

The deck plates (A) snap ears from the stalks as the stalks are pulled down by the stalk rolls (B).

The corn head is shipped from the factory with the deck plates spaced 1-3/8-inches (35 mm) apart at the front and 1-1/2-inches (38 mm) apart at the rear to cover most conditions. The deck plates can be adjusted for different varieties of corn and varying field conditions.

To minimize the amount of trash and stalk intake, the deck plates must be open as far as possible without causing shelling.

1. Raise the center shields as explained on page 24.
2. Loosen three bolts (C) on both deck plates. If the chain guides require adjusting, loosen bolts (D).
3. Position deck plates so the center space between the edge of the deck plates is located over the center space between the stalk rolls (B).
4. Adjust gatherer chain guides (E) in until they are just touching the gatherer chains.
5. Tighten bolts (C) and (D) on guides and deck plates to 85 ft-lbs (115 Nm) (11.5 kgm) torque.

NOTE: Deck plates must be spaced 1/8-inch (3 mm) wider apart at the rear than at the front. The center of space between the deck plates must be located over the center of space between the stalk rolls.

A handy gauge, for deck plate spacing, can be made from wood or metal.

A—Front
B—Rear

A—Weld
B—Do Not Weld

Adjusting Row Spacing

ROW SPACING

Corn Head	Inches	(Millimetres)
243	28, 30*, 32	(711, 762, 813 mm)
244	36, 38*, 40	(914, 965, 1016 mm)
343	28, 30*, 32	(711, 762, 813 mm)
344	36, 38*, 40	(914, 965, 1016 mm)
443	28, 30*, 32	(711, 762, 813 mm)
444	36, 38*, 40	(914, 965, 1016 mm)
546	36*	(914 mm)
643	28, 30*	(711, 762 mm)
644	36, 38*	(914, 965 mm)
645	40*	(1016 mm)
843	28, 30*	(711, 762 mm)
844	36, 38*	(914, 965 mm)

*Factory Settings

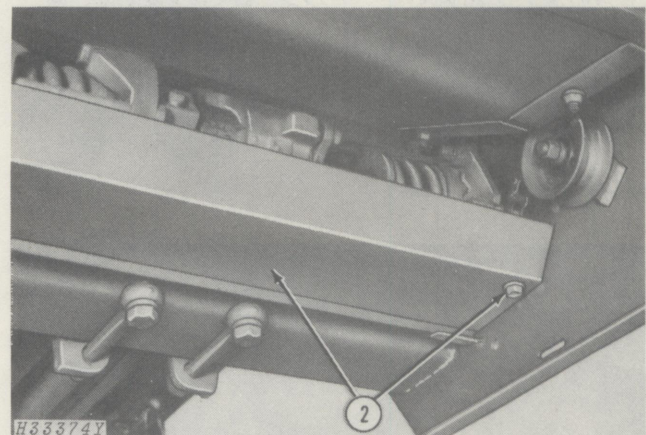
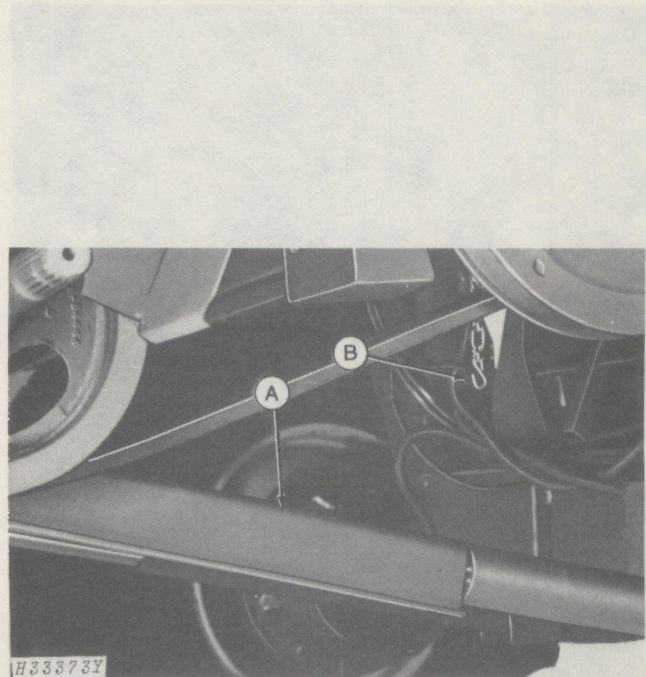
To change row spacing:

1. **CAUTION:** When working under the corn head always place the cylinder safety stop in safety position to prevent header from lowering.

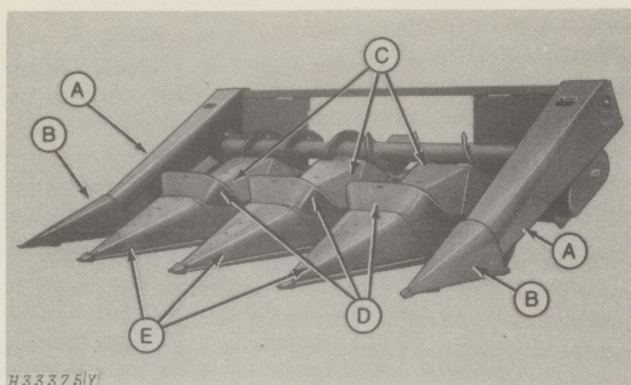
Start engine and raise corn head as high as possible. Lower safety stop (A).

A—Safety Stop
B—Support Chain

2. Remove and retain attaching hardware and row unit drive shield.

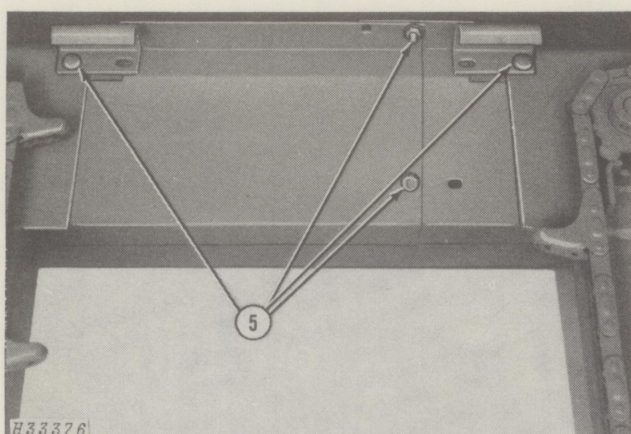


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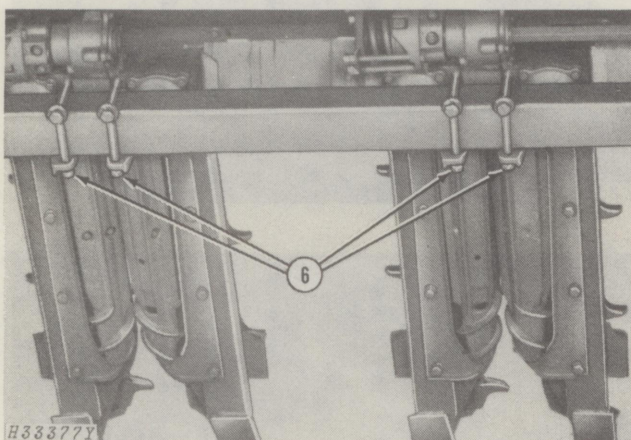


3. Refer to page 25 and remove both outer gatherer sheets (A) and outer gatherer points (B) as a complete unit.
4. Refer to page 24 and remove each row unit center shield (C), shield extension (D) and gatherer point (E) as a complete unit.

A—Outer Gatherer Sheets
 B—Outer Gatherer Points
 C—Center Shields
 D—Center Shield Extensions
 E—Center Gatherer Points

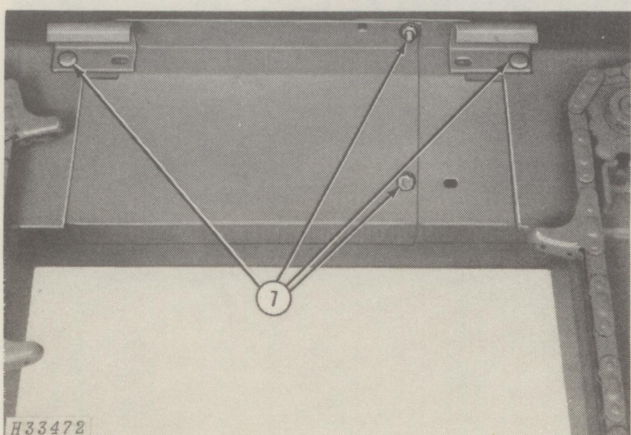


5. Remove bolts from row unit filler plates and center shield latch brackets.



6. Both row units on the 243 and 244 corn heads are moved when changing row spacing. The outside row units are moved when changing row spacing on the 343 and 344 corn heads while the center row remains stationary. On 443, 444, 643, 644, 843 and 844 corn heads, all row units are moved when changing row spacing. Loosen nuts on row unit attaching bolts and move units to desired row spacing. Tighten unit attaching bolts to 110 ft-lbs (149 Nm) (15 kgm) torque.

NOTE: To slide row units to desired location, place a support under row unit skid plates.



7. Position row unit filler plates and center shield latch brackets for desired row spacing and reinstall bolts in filler plates and latch brackets.

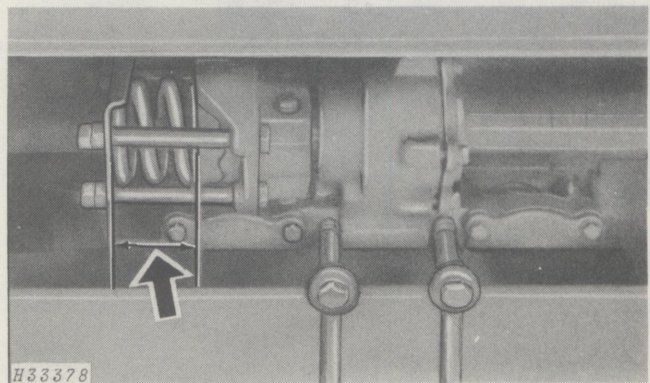
8. Loosen all bolts attaching halves of center shields, shield extensions, and gatherer points together. Do not tighten bolts at this time.
9. Install center shields, shield extensions and gatherer points on corn head and secure center shield latches. Tighten all bolts attaching halves of center shields, shield extensions and gatherer points for row spacing desired.
10. **CAUTION:** Be certain to connect safety strap between corn head and outer gatherer sheet.
Reinstall both outer gatherer sheets and outer gatherer points as a complete unit, and reconnect safety strap to outer gatherer sheet.
11. Reinstall row unit drive shield.
12. Raise hydraulic cylinder safety stop and hook to chain.
13. Start engine and engage corn head drive slowly.

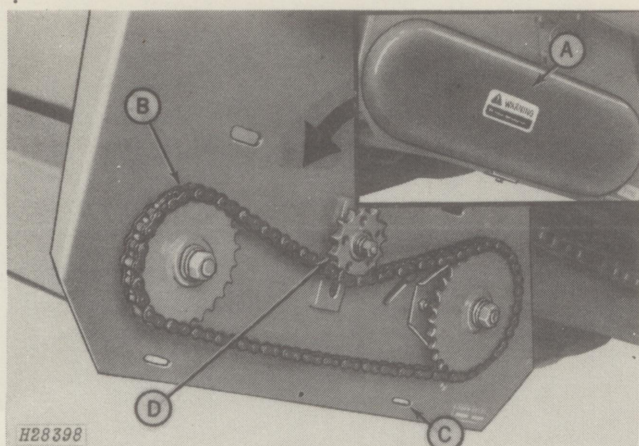
Adjusting Slip Clutches

Slip clutches protect the corn head drives. Each row unit drive and auger drive have a slip clutch.

All slip clutches are properly adjusted at the factory. The only time slip clutches will require adjusting is when they are disassembled for service. The length of the row unit slip clutch spring when correctly adjusted should be 2-13/16-inches (71 mm). The auger drive slip clutch is non-adjustable.

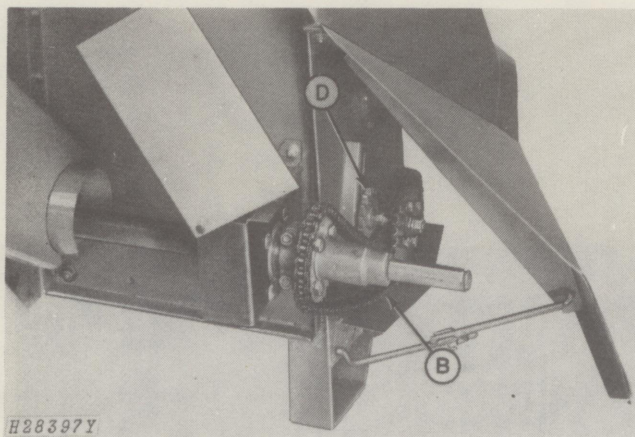
IMPORTANT: Do not tighten nuts to the point where the clutch will not slip. The two nuts used to compress the spring must be jammed together. Tighten to 55 ft-lbs (75 Nm) (7.5 kgm) torque. Grease thrust washer but not grease clutch facings.



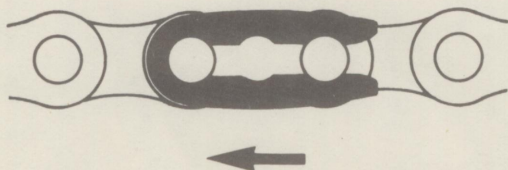


Shield Removed for Illustrative Purposes

- A—Shield
- B—Drive Chain
- C—Attaching Slots
- D—Tightener



Illustrated on 244 Corn Head
Shield Removed for Illustrative Purposes



E11025

Adjusting Row Unit Drive Chain

1. On 344, 443, 444, 546, 643, 644, 645, and 843 Corn Heads, remove the shield (A) covering row unit drive chain (B) on both sides of corn head.
2. To remove shield, push down on top of shield until the shield springs out of the attaching slots (C).
3. Adjust chain tension with tightener (D) so chain is just tight enough to run without climbing or jumping sprockets.

NOTE: Too tight a chain will cause undue chain wear.

4. Reinstall shield.

NOTE: On 844 Corn Heads, remove four self-tapping screws and then remove door in shield to gain access to the tightener.

Adjusting Slip Clutches

Slip clutches protect the corn head drive. Each row unit drive and auger drive have a slip clutch.

All slip clutches are properly adjusted at the factory. The only time slip clutches will require adjusting is when they are disassembled for service. The end of the row unit slip clutch spring which correctly adjusted should be 1/2 inch (12.7 mm). The auger drive slip clutch is non-adjustable.

IMPORTANT: Do not tighten nuts to the point where the clutch will not slip. The two nuts used to compress the spring must be jammed together.

Coupling the Chain

When securing a chain coupler link, be sure the closed end of spring lock faces in the direction the chain will run.

NOTE: Chain connecting link must be up with trailing edge toward direction of travel shown with bold arrow.

Adjusting Row Unit Drive Sprockets With Fixed Speed Drive

Combines

344 corn heads include a 24-tooth and 30-tooth sprocket as standard equipment.

443, 444, 546, 643, 644, 645, 843 and 844 corn heads are shipped from the factory with a 24-tooth sprocket and a 30-tooth sprocket on both ends as standard equipment for normal ground speed operation.

For increased ground speed, install 24-tooth sprocket on drive and driven shafts on one end and 30-tooth sprocket on drive and driven shafts on the other end.

NOTE: On 344 corn heads, an additional sprocket must be purchased from your John Deere dealer to obtain the desired speed. On 443, 444, 456, 546, 643, 644, 645, 843 and 844 corn heads, sprockets can be switched from side to side to obtain a 1 to 1 ratio for desired speed.

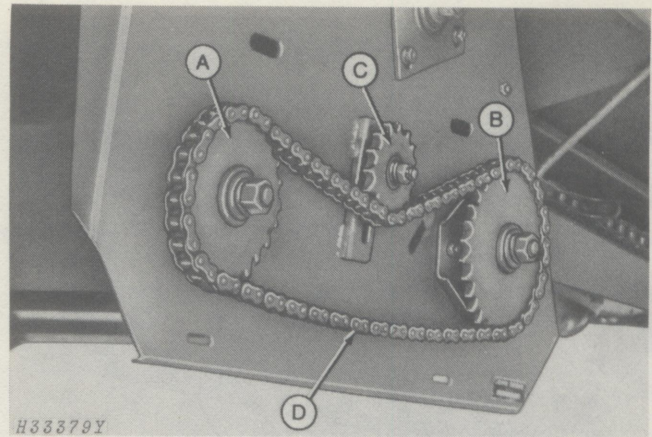
Add or remove links from drive chain as necessary.

For maximum ground speed, install 30-tooth sprocket on drive shafts and 24-tooth sprocket on driven shafts.

Adjust tightener so chain will operate without climbing or jumping sprockets.

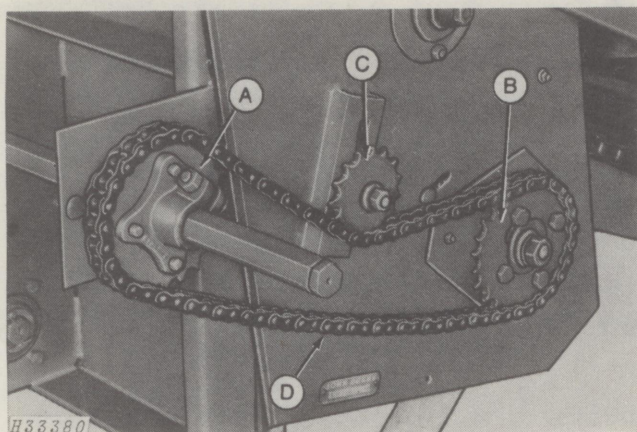


CAUTION: Install safety shields after changing or adjusting sprockets.



Shield Removed for Illustrative Purposes

- A—24-Tooth Sprocket
- B—30-Tooth Sprocket
- C—Tightener
- D—Drive Chain



Shield Removed for Illustrative Purposes

- A—24-Tooth Sprocket
 B—30-Tooth Sprocket
 C—Tightener
 D—Drive Chain

Forage Harvesters

Two- and three-row corn heads include a 24-tooth and 30-tooth sprocket as standard equipment.

Four-row corn heads are shipped from the factory with a 24-tooth drive sprocket and a 30-tooth driven sprocket on both ends as standard equipment for normal ground speed operation.

For increased ground speed, install 24-tooth sprocket on drive and driven shafts on one end and 30-tooth sprocket on drive and driven shafts on the other end.

NOTE: On two- and three-row corn heads, an additional sprocket must be purchased from your John Deere dealer to obtain the desired speed. On four row corn heads, sprockets can be switched from side to side to obtain a 1 to 1 ratio, for desired speed.

Add or remove links from drive chain as necessary.

For maximum ground speed, install 30-tooth sprocket on drive shafts and 24-tooth sprocket on driven shafts.

When changing sprocket location be certain to secure sprockets to shafts and align sprockets for smooth operation.

Adjust tightener so chain will operate without climbing or jumping sprockets.



CAUTION: Install safety shields after changing or adjusting sprockets.

The following chart gives the approximate harvester travel speed that should be used with each sprocket combination.

NOTE: The travel speed given in the chart below is only a guide and is based on average conditions. Your particular field condition will determine which sprocket must be used.

(A) Adapter Plate Shaft Sprocket (Drive)	(B) Corn Head Shaft Sprocket (Driven)	Front Corn Head Shaft Speed @2100 En- gine rpm	Approx. Ground Speed Suggested
24T	— 30T	360	Under 3 mph (5 km/h)
24T	— 24T	450	3-5 mph (5-8 km/h)
30T	— 30T	450	3-5 mph (5-8 km/h)
30T	— 24T	562.5	Over 5 mph (8 km/h)

Corn Huskers

Two- and three-row corn heads include a 24-tooth and 30-tooth sprocket as standard equipment. A 24-tooth sprocket is included with the corn head attaching parts which may be ordered with the husker.

For normal ground speed, install 24-tooth sprocket on the drive shaft and 30-tooth on the driven shaft.

For increased ground speed, install 24-tooth sprockets on both the drive and driven shafts. Remove links from drive chain as necessary.

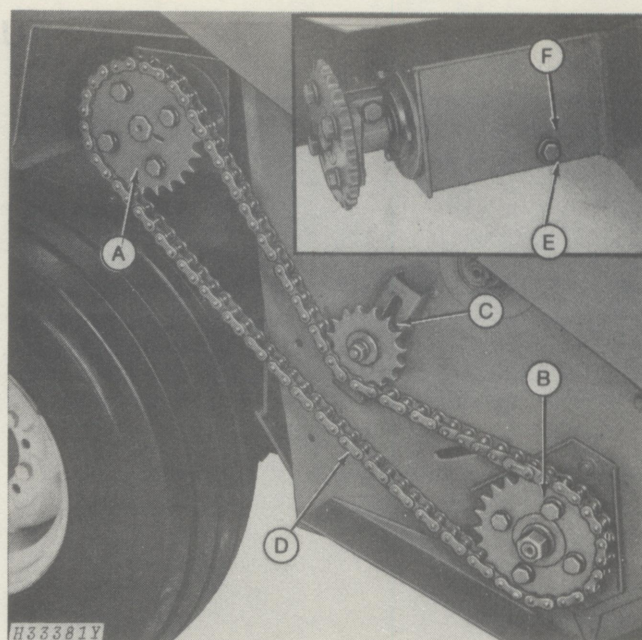
For maximum ground speed, install 30-tooth sprocket on drive shaft and 24-tooth sprocket on driven shaft.

When changing sprocket location, be certain to secure sprockets to shafts and align sprockets for smooth operation.

Loosen clamp on right-hand wheel shield support rod for access to corn head driven sprocket and tightener.

Adjust tightener so chain will operate without climbing or jumping sprockets.

CAUTION: Install safety shields after changing or adjusting sprockets



343 Corn Head Illustrated
Shield Removed for Illustrative Purposes

- A—24-Tooth Sprocket
- B—30-Tooth Sprocket
- C—Tightener
- D—Drive Chain
- E—Spacer Bolt Head
- F—Washers

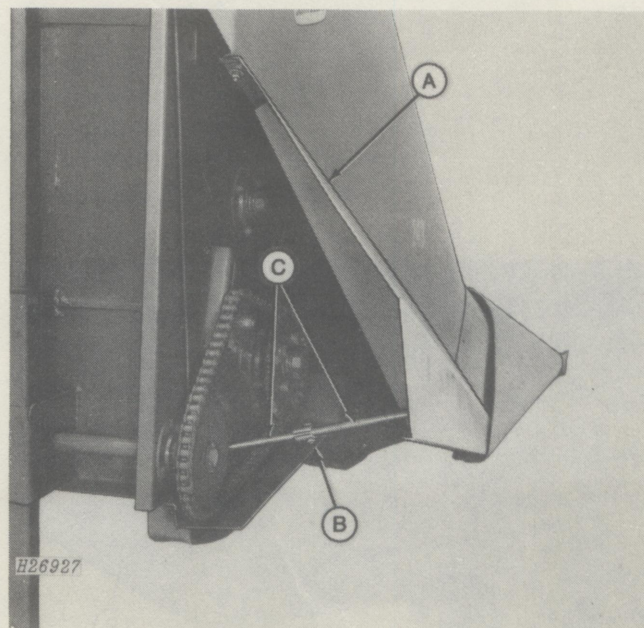
Wheel Shields (244 and 344 Corn Heads)

The wheel shield keeps down and leaning stalks out of the path of the harvester or corn husker right-hand wheel. Adjust the shield as close to the harvester or husker wheel as possible. Leave enough clearance to let stalks and dirt pass between the shield and wheel.

To adjust wheel shield (A), loosen the clamp bolt (B) on the shield support rods (C).

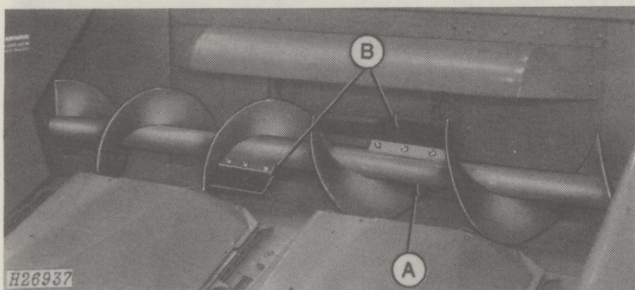
Adjust the shield and then tighten the clamp bolt (B) securely to maintain shield adjustment.

IMPORTANT: On the 243 and 244 Corn Heads, the wheel shield can cause interference with drive shaft or wheel if moved in too far.



- A—Wheel Shield
- B—Clamp Bolt
- C—Shield Support Rods

AUGER



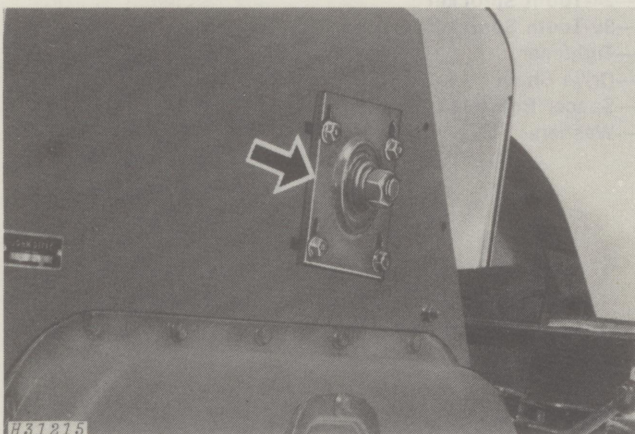
Auger (A) directs the ears into the feeder house.

Two rubber paddles (B) (not on 243, 244 and 343) are attached to the center of the auger to assist the flow of ears into the feeder house.

Replace worn paddles (B).

A—Auger

B—Rubber Paddles



Adjusting Auger

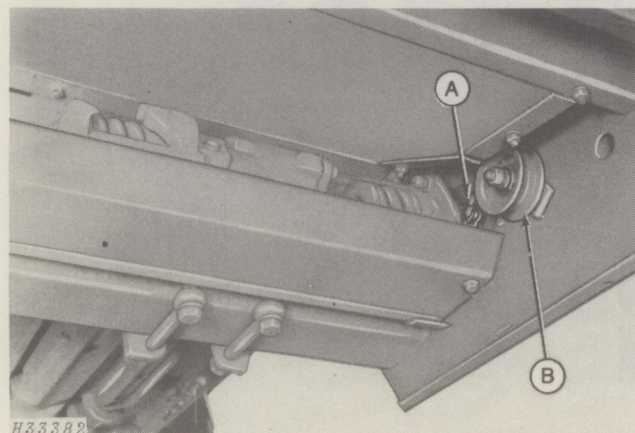


CAUTION: Keep safety shields in place.

Both sides of the corn head main frame and auger bearing carriers are slotted for adjusting the auger. The auger can be adjusted up and down and fore and aft for proper clearance.

Keep the auger adjusted down and to the rear as far as possible in normal dry conditions. In damp, sticky, or heavy trash conditions, adjust the auger up and forward to move material away from the row unit.

Always maintain a minimum of 1/4-inch (6 mm) clearance between the auger and the auger stripper.



Adjusting Auger Drive Chain



CAUTION: Raise corn head and lower safety stop before working under header. Shut off engine.

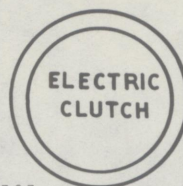
Adjust auger drive chain (A) by loosening the nut and adjusting the tightener (B) for the proper chain tension.

A—Chain

B—Tightener

CORN HEAD DRIVE

Use the electric clutch switch to engage or disengage the corn head drive.



H33383

CORN HEAD DRIVE SPEEDS

Forward combine travel should be approximately the same as rearward movement of gatherer chain flights.

If ground speed is too fast, gatherer chains will push stalks forward and knock off ears. If ground speed is too slow, gatherer chains will jerk stalks back into the corn head, possibly shearing off stalks or knocking off ears.

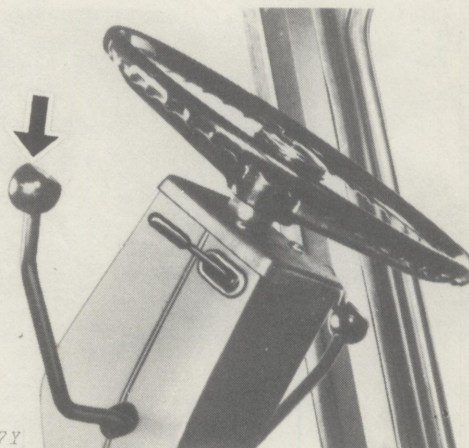
Combines with Variable-Belt-Drive Feeder House

The corn head drive speed is varied by changing the speed of the lower feeder house shaft. Lower feeder house shaft speed is changed with the variable speed control lever located on the steering column.

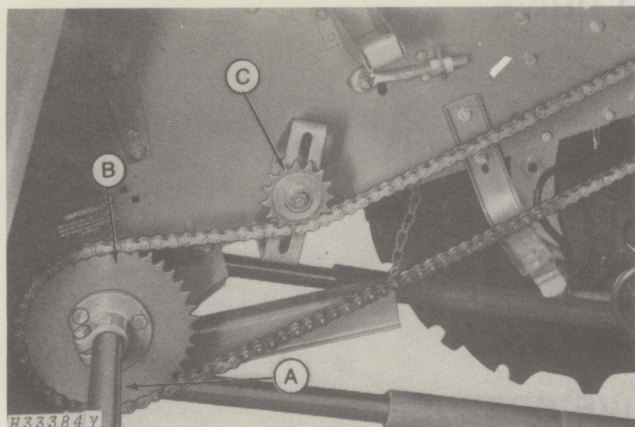
Shaft speed of variable drive equipped feeder house ranges from approximately 460 to 760 RPM.

Use the following table as a guide in matching corn head speed to combine travel speed:

Combine travel speed	Approximate lower feeder house shaft speed
less than: 2.5 mph (4.0 km/h)	470 rpm
3.0 mph (4.8 km/h)	550 rpm
3.5 mph (5.6 km/h)	620 rpm
4.0 mph (6.4 km/h)	690 rpm
greater than: 4.5 mph (7.2 km/h)	760 rpm



H31217Y



A—Feeder House Lower Shaft
B—Drive Sprocket
C—Tightener

Combines with Fixed-Chain-Drive Feeder House

The corn head drive speed is varied by changing the speed of the lower feeder house shaft (A). Lower feeder house speed is changed by using one of three drive sprockets (B) located on the lower left-hand side of the feeder house.

If necessary, add or remove links from the chain when changing drive sprocket.

Be certain to align sprockets and adjust tightener (C) to obtain proper chain tension.

Chain drive 3300 feeder houses have three fixed speeds of 457, 599, and 724 RPM. Chain drive 4400 and 4420 feeder houses have three fixed speeds of 469, 618 and 755 RPM.

IMPORTANT: On the 3300, 4400 and 4420 Combines, the feeder house lower shaft speed, as shown in the following charts, is determined by the primary countershaft speed which should be 1500-1510 rpm. Check the primary countershaft speed, before changing the feeder house lower shaft speed.

The following charts give the approximate combine ground travel speed that should be used in relationship to the number of teeth in the sprocket used.

NOTE: The speed given in the charts is only a guide to use and is based on average conditions. Your particular field condition will determine which sprocket should be used.

3300 COMBINE

Sprocket	Lower Shaft Speed	Approximate Combine Travel Speed
24-Tooth	724 rpm	3 mph
29-Tooth	599 rpm	2-1/2 mph
38-Tooth	457 rpm	2 mph

NOTE: 3300 Combines are also furnished with a 24-tooth sprocket.

4400 AND 4420 COMBINES

Sprocket	Lower Shaft Speed	Approximate Combine Travel Speed
18-Tooth	755 rpm	3 mph
22-Tooth	618 rpm	2-1/2 mph
29-Tooth	469 rpm	2 mph

NOTE: 4400 and 4420 Combines are also furnished with an 18-tooth sprocket.

The range of corn head operating speeds on 4400 and 4420 Combines with fixed chain drive feeder house can be changed by the position of row unit drive sprockets.

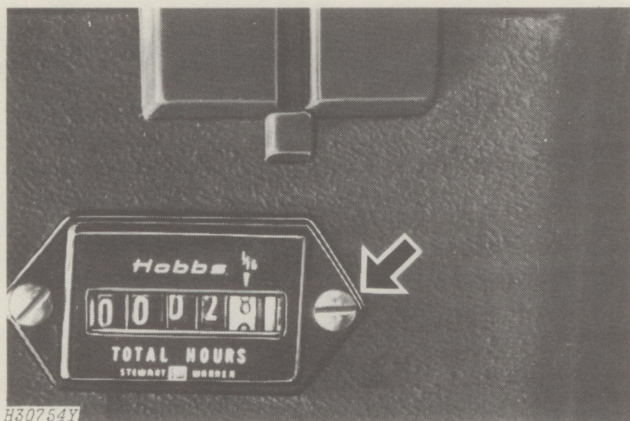
Transverse Shaft Driver Sprocket	Row Unit Driven Sprocket	% Increase
24T	30T	none
24T	24T	25
30T	30T	25
30T	24T	56

The higher speed positions of these sprockets are used only when travel speeds consistently exceed 4.5 mph (7.2 km/h).



Lubrication and Maintenance

SERVICE INTERVALS



H30754Y

6620 Combine Illustrated

Using hour meter as a guide, perform all services at the hourly intervals indicated on following pages.

IMPORTANT: Recommended service intervals are for average conditions. Service **MORE OFTEN** if corn head is operated under adverse conditions.



CAUTION: Never lubricate or service corn head while engine is running.

SYMBOLS

Lubricate with John Deere SAE 30 oil or heavier oil at hourly intervals indicated on the symbols.

Lubricate with John Deere gear case lubricant (type "0" [zero] extreme pressure) at hourly intervals indicated on the symbols. The lubricant is available in a 14-1/2 oz. (0.4 kg) tube AN102562. Wipe away all grease and dirt before removing inspection plugs. Wipe grease fittings clean before lubricating.

EVERY 10 HOURS OF OPERATION

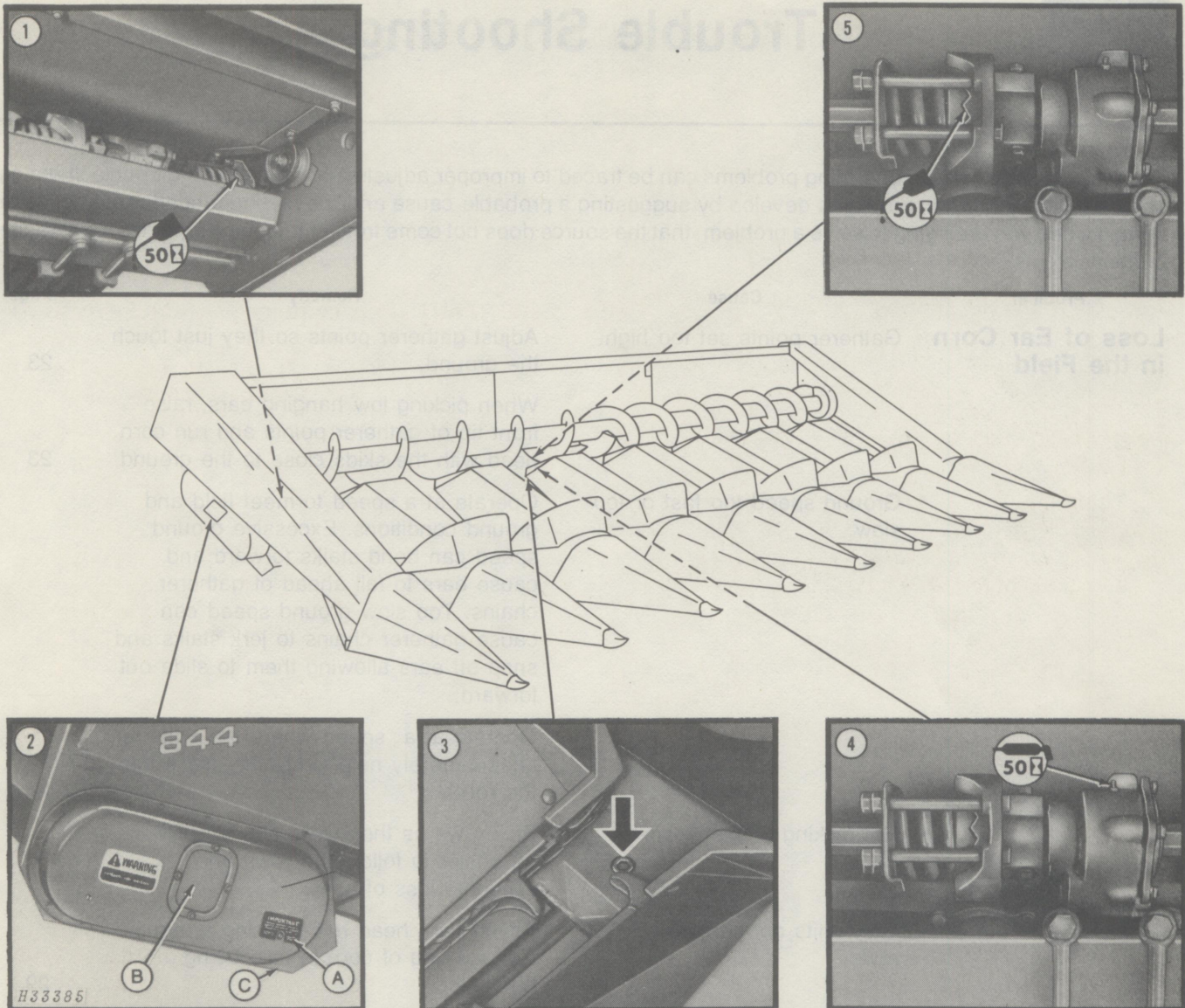


CAUTION: Never lubricate chains with the engine running.

Lubricate chains every 10 hours of operation with SAE 30 or heavier oil. Run chain for a few minutes before lubricating. A warm chain increases the penetration of oil between pins and bushings. Shut off engine and lubricate chains.

NOTE: Genuine John Deere Chain Lube in an aerosol can (part number PT508), can be obtained from your dealer.

EVERY 50 HOURS OF OPERATION



1. Oil thrust washer in auger slip clutch.

2. (844 Corn Heads Only)

- A—Check Plug
- B—Access Door
- C—Drain Plug

Check oil level of drive chains (both sides). Oil should be level with bottom of check plug hole (A). Add oil as necessary through access door (B). Drain oil at drain plug (C) and refill every season.

3. Check gear case lubricant level at inspection plugs. Lubricant should be approximately 1-1/2-inches (38 mm) from inspection plug.

4. Grease gear cases.

5. Oil thrust washer in row unit slip clutches.



Trouble Shooting

The majority of corn head operating problems can be traced to improper adjustment. The following trouble shooting chart will help you when problems develop by suggesting a probable cause and the recommended remedy. Make certain when you are trying to solve a problem, that the source does not come from some place other than where the problem exists.

Problem	Cause	Remedy	Page
Loss of Ear Corn in the Field	Gatherer points set too high.	Adjust gatherer points so they just touch the ground.	23
		When picking low hanging ears, raise front tip of gatherer points and run corn head with the skids close to the ground.	23
	Ground speed too fast or too slow.	Operate at a speed to meet field and ground conditions. Excessive ground speed can bend stalks forward and cause ears to fall ahead of gatherer chains. Too slow ground speed can cause gatherer chains to jerk stalks and snap off ears allowing them to slide out forward.	—
		Operate at a speed where the gatherer chains merely help guide the stalks into the rolls.	—
	Not picking planter rows.	Pick rows as they were planted. It will be easier to follow the rows and eliminate loss of ears.	—
	Row units not centered on rows.	Adjust corn head row spacing to equal row spacing of corn in field being harvested.	29
Ear Shelling At Stalk Rolls	Ears sliding out over gatherer chains.	Use ear savers and center shield extensions.	—
	Gatherer chain speed too fast or too slow.	Change speed of variable speed feeder house.	37
		(4400 and 4420 Only) Obtain the correct gatherer chain speed by changing the feeder house powershaft drive sprocket or change variable ground speed of combine.	38
	Deck plates not adjusted properly.	Adjust deck plates.	28

Problem	Cause	Remedy	Page
Ears Not Shelled Completely	Moisture content of corn too high.	Wait for moisture content of corn to drop. Corn kernels tend to cling to the cobs when the moisture content is above 30 percent. Best shelling is obtained and crackage is at a minimum when the moisture content is under 27 percent.	—
	Cylinder speed too slow.	Choose the next fastest cylinder speed. Check separator drive belt tension to make sure it is not slipping. See combine operator's manual.	—
	Rasp bars bent.	Straighten or replace rasp bars.	—
	Concave bent.	Replace if necessary.	—
	Concave not level.	Adjust concave spacing equally on both sides of combine.	—
	Too wide a space between cylinder and concave.	Close cylinder-to-concave spacing to increase shelling action.	—
	Ears going between rasp bars of cylinder without being shelled.	Install cylinder filler plates.	9
	Cobs being split without the corn being shelled from them. (Corn is attached to half or smaller section of cob).	Open cylinder-to-concave spacing just enough to get proper shelling action.	—
	Ground speed too fast.	Reduce ground speed.	—
	Concave too close to cylinder bars.	Increase cylinder-to-concave spacing.	—
Excessive Damage to Shelled Corn	Cylinder speed too fast.	Slow down cylinder speed.	—
	Moisture content of corn too high.	Wait until moisture content of corn drops. Corn above 30 percent moisture has a tendency to crack and is easily crushed. It is best to wait until moisture content is under 27 percent.	—
	Concave not level.	Level concave.	—
	Damaged rasp bars or concave.	Replace as necessary.	—
	Dented auger housings.	Straighten or replace as necessary.	—
	Excessive tailings.	Reduce ground speed.	—
		Open or clean the sieve and increase the fan speed.	—

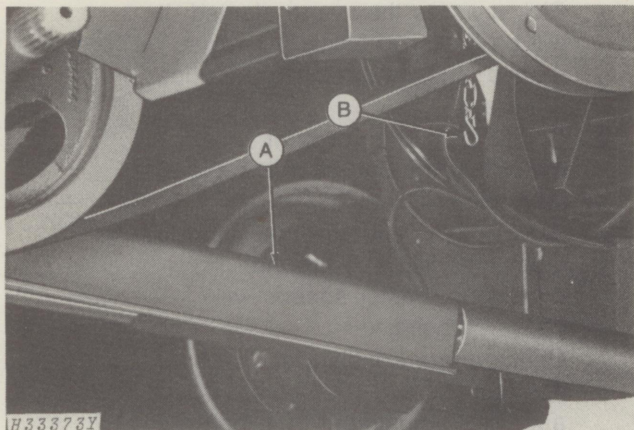
Problem	Cause	Remedy	Page
Shelled Corn Coming Out Rear of Combine	Corn carrying over straw walkers.	Extend pans at rear of straw walkers, if straw walkers are so equipped.	—
		Clean out straw walkers if they are plugged with cobs.	—
	Corn carrying over chaffer.	Reduce ground speed.	—
		Use 1-5/8-inch (41 mm) deep-tooth wide-spaced adjustable chaffer.	—
		Adjust the chaffer if too far closed or too far open and plugged with pieces of cob. Refer to combine operator's manual.	—
		Clean sieve completely if sieve is closed or clogged with cobs.	—
		Increase the speed of cleaning fan if volume of air does not appear to be adequate. Check fan belt tension.	—
		Lower front of sieve on combine to allow more air to the chaffer.	—
		Too much material in combine. Check corn head for excessive stalk breakage which could be due to rolls not being properly timed or deck plates closed too much.	—
		Adjust ear savers.	27
Ears Sliding Out Through the Throat	Ear savers not properly adjusted.		
	Ear savers worn out.	Replace ear savers.	27
Pulling up Cornstalks	Deck plates set too close together.	Spread deck plates, a little at a time, until stalks feed through rolls more freely.	28
	Traveling too fast for gatherer chain speed.	Slow down to meet crop conditions or increase row unit drive speed.	37
	Gatherer chain flights digging into cornstalk roots.	Lower gatherer points.	23
	Corn extremely dry or down.	Remove center shield extensions and ear savers.	—
	Worn stalk rolls.	Replace stalk rolls.	—

Problem	Cause	Remedy	Page
Plugging	Stalks breaking in stalk rolls or deck plates.	Adjust the opening of deck plates. Check the stalk roll timing so stalk roll flutes do not break stalks. Also make sure deck plates are set equidistant.	28
	Trash winds around stalk rolls.	Set trash knives closer to stalk rolls.	27
	Loose gatherer chains.	Check gatherer chain mechanism.	47
	Not picking planter rows.	Pick rows as they were planted. It will be easier to follow the rows, reduce plugging, and eliminate loss of ears.	—
	Material catching on sheet metal.	Check for broken or bent sheet metal that may prevent flow of material.	—
	Ground speed too fast, causing too much material to go into corn head too fast.	Slow down. Operate at a speed to meet the yield and ground conditions. Faster speeds will cause plugging.	—
	Material not flowing through auger.	Check auger housing for obstructions and roughness. Check auger for adjustment of 1-inch (25 mm) clearance.	—
	Corn stalks plugging in gatherer throat opening.	Remove ear savers and center shield extensions.	—
	Worn stalk rolls.	Replace stalk rolls.	—
	Moisture content of corn too high.	Check moisture content of corn before harvesting.	—
Cobs and Foreign Material in Grain Tank	Insufficient air blast from cleaning fan.	Increase fan speed to obtain sufficient air blast. Adjust sieve. Check for proper sieve and 1-5/8-inch (41 mm) deep tooth chaffer. Keep sieve clear of pieces of cob and other obstructions.	—
	Contact of stalk with center sheet extension and ear savers.	Remove center sheet extensions and ear savers.	—
Loss of Ear Corn From Weakened or Broken Stalks. Problem is Caused by Disease (Stalk Rot) or Insects (Corn Borers)	Ground speed too fast.	Reduce ground speed.	—
	Ground speed and feeder house speed not coordinated.	If ground speed is 2 mi/hr (33 km/hr) or less, use the 24-tooth drive sprocket and 30-tooth driven sprocket on the row unit drive shaft for 3300, 4400 and 4420 Combines with fixed chain drive feeder house.	33
		If ground speed is 2 mi/hr. (33 km/hr) or less, use slow speed with variable belt drive feeder house.	37
	Stalks and ears badly "down" or "lodged" or loose ears on the ground.	Retime gatherer chains so the flights are directly opposite each other.	26
	Worn stalk rolls.	Replace stalk rolls.	46



Service

HYDRAULIC CYLINDER SAFETY STOP



H33373Y

A—Safety Stop
B—Support Chain

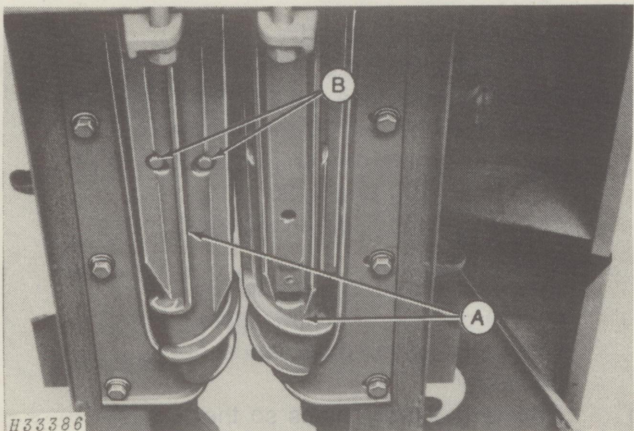
1. **CAUTION:** When working under the corn head always place the hydraulic cylinder safety stop in safety position to prevent header from lowering.

Start engine, raise feeder house and fully extend hydraulic cylinder to place safety stop (A) in safety position.

2. Disconnect support chain (B) from safety stop.
3. Position safety stop on piston rod.

After completing work on the corn head, attach safety stop to chain for storage.

STALK ROLLS



H33386

1. **CAUTION:** Keep hands and feet away from stalk rolls.

The stalk rolls pull the cornstalks down so the ears will be snapped on the deck plates.

Each stalk roll (A) is attached to the stalk roll shaft by two 1/2 x 2-inch cap screws (B) and a double spring pin. Periodically check to be certain that the bolts are tightened to 120 ft-lbs (162 Nm) (16 kgm) torque.

A—Stalk Rolls
B—Cap Screws

GATHERER CHAINS



CAUTION: Raise corn head and lower safety stop before working under header. Shut off engine.

Replacing and Repairing Gatherer Chain

If gatherer chain breaks, roller links, offset links, flight links, and riveted connectors are available from your John Deere dealer. Use only the riveted-type connector when repairing chain.

If the gatherer chain is badly worn, replace with a new chain.

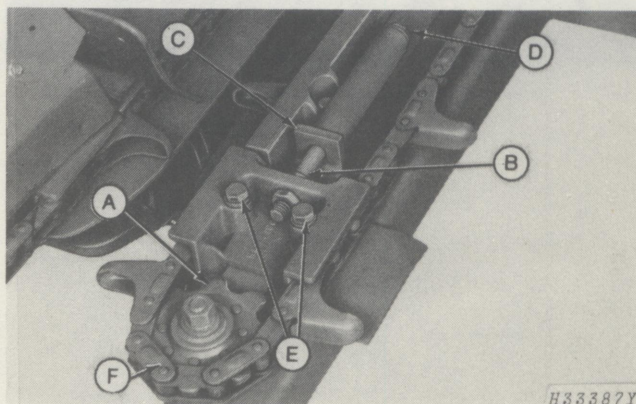
Gatherer chains can be removed for servicing parts of the gathering mechanism without disconnecting the chain.

Removing Gatherer Chain

1. **CAUTION:** Never service any part of the mechanism or idler sprocket (A) until you have nut (B) tight against the leg of the idler support strap (C).

Turn nut (B) until it is against leg of the idler support strap (C), to release gatherer chain tension.

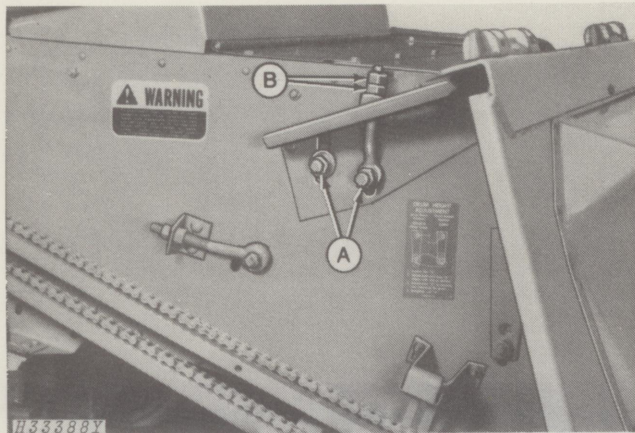
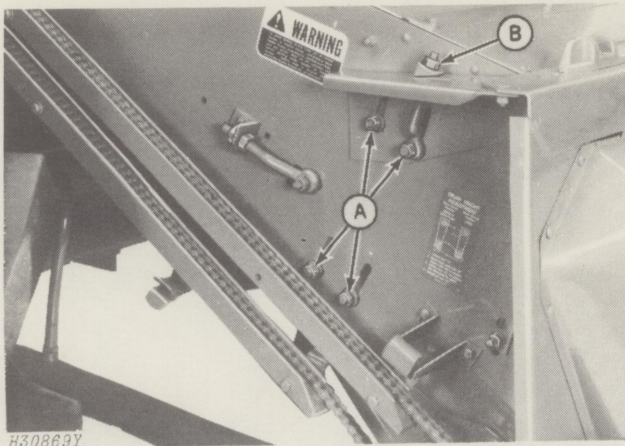
2. Loosen bolt (D) until tension is off chain.
3. Remove bolts (E) to allow idler sprocket (A) to move.
4. Remove gatherer chain (F).



H33387Y

- A—Idler Sprocket
- B—Nut
- C—Leg of Strap
- D—Bolt
- E—Bolts
- F—Gatherer Chain

LEVELING FEEDER HOUSE AND HEADER



The header must be level when attached to the feeder house.

1. Raise the header the medium height.
2. Take a position approximately 15 feet (5 m) directly in front of the header.
3. Compare the bottom of the header with the combine front axle.

IMPORTANT: Tires must be inflated to equal air pressure for accurate leveling adjustment. See tire inflation chart in combine operator's manual.


If header is not level, lower header onto wooden block under the end that needs to be raised.

4. Loosen nuts (A) on right-hand side of feeder house.
5. To raise right-hand end of header, loosen nut (B).
6. To raise left-hand end of header, tighten nut (B).
7. When correct level is obtained, tighten nuts (A).



Storage

END OF SEASON SERVICE

1. Clean the corn head thoroughly. Chaff and dirt will draw moisture and cause rust.
2. Lubricate the corn head. Grease the threads on adjusting bolts.
3. Paint all parts from which paint has worn.
4. If possible, shelter the corn head in a dry place.
5.  **CAUTION: Support the corn head with either the hydraulic cylinder safety stop or with blocks, or lower it to ground level.**
6. Order repair parts needed for next season.

BEGINNING OF SEASON SERVICE

1. Clean the corn head thoroughly.
2. Adjust gatherer chains and check tension.
3. Adjust chains to proper tension.
4. Lubricate corn head completely.
5. Go over complete corn head and see that all bolts are tight and cotter pins are spread.
6. Run corn head at half-speed for a few minutes. Check bearings for overheating or excessive looseness.
7. Review your operator's manual.



Specifications

CORN HEAD MODEL	MACHINE MODEL	NUMBER OF ROWS
243	Forage Harvester Corn Husker	2
244	Forage Harvester Corn Husker 3300 Combine	2
343	Forage Harvester Corn Husker 3300 Combine	3
344	Forage Harvester 3300 Combine 4400 Combine 4420 Combine 6600 Combine 6620 Combine	3
443	Forage Harvester 4400 Combine 4420 Combine 6600 Combine 6620 Combine	4
444	Forage Harvester 4400 Combine 6600 Combine 4420 Combine 6600 Combine SideHill 6600 Combine 6620 Combine SideHill 6620 Combine 7720 Combine 7701 Combine 7721 Combine	4
546	6600 Combine 6620 Combine 7700 Combine 7720 Combine 8820 Combine	5

CORN HEAD MODEL	MACHINE MODEL	NUMBER OF ROWS
643	6600 Combine	6
	SideHill 6600 Combine	
	6620 Combine	
	SideHill 6620 Combine	
	7700 Combine	
	7720 Combine	
	8820 Combine	
644	6620 Combine	6
	7700 Combine	
	7720 Combine	
	8820 Combine	
645	6620 Combine	6
	7700 Combine	
	7720 Combine	
	8820 Combine	
843	7700 Combine	8
	7720 Combine	
	8820 Combine	
844	8820 Combine	8

Gatherer Points Low-profile floating type
hinged above gatherer chains

Center and Outer Gatherer Sheets . . Hinged,
quick-removable

Type of Gatherer Chains Heavy-duty 555
endless steel roller chain
(no master connecting link)

**Minimum Clearance Between
Gatherer Chains and
Ground** 1-1/4 inches
(32 mm)

Row Unit Drive Enclosed gear box with
gears submerged in
lubricant; driven by
single input hex. shaft

Gatherer Chain Adjustment . . Spring loaded-
self-adjusting

Stalk Rolls Spiral-pointed, flute-type
(2 per row unit)

Deck Plate Adjustment Bolt adjusted

Slip Clutch One per row unit plus
auger drive

Trash Knives Full length one piece
heat-treated steel

Approximate Overall Width for Storage—

244 wheel shields		
attached	8 feet	4 inches (2540 mm)
wheel shields		
removed	6 feet	6 inches (1981 mm)
343 wheel shields		
attached	10 feet	2 inches (3099 mm)
344 wheel shields		
removed	8 feet	4 inches (2540 mm)
344	10 feet	2 inches (3099 mm)
443	10 feet	8 inches (3251 mm)
444	13 feet	4 inches (4064 mm)
546	15 feet	6 inches (4724 mm)
643	15 feet	6 inches (4724 mm)
644	18 feet	10 inches (5740 mm)
645	19 feet	8 inches (5994 mm)
843	20 feet	8 inches (6299 mm)
844	25 feet	8 inches (7820 mm)

Approximate Overall Length for Storage—All Corn

Heads 10 Feet (3048 mm)

Approximate Shipping Weight of Corn Head—(Includes Shipping Skid)

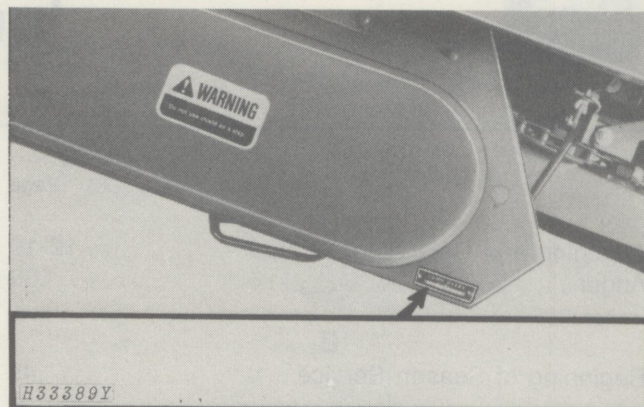
243	1310 lbs.	(594 k)
244	1465 lbs.	(665 k)
343	1884 lbs.	(855 k)
344	2010 lbs.	(912 k)
443	2488 lbs.	(1129 k)
444	2610 lbs.	(1184 k)
546	3245 lbs.	(1472 k)
643	3505 lbs.	(1590 k)
644	4090 lbs.	(1855 k)
645	4190 lbs.	(1901 k)
843	4944 lbs.	(2243 k)
844	5466 lbs.	(2470 k)

(Specifications and design subject to change without notice.)

SERIAL NUMBER

The serial number is on a plate located on the right-hand end of the corn head.

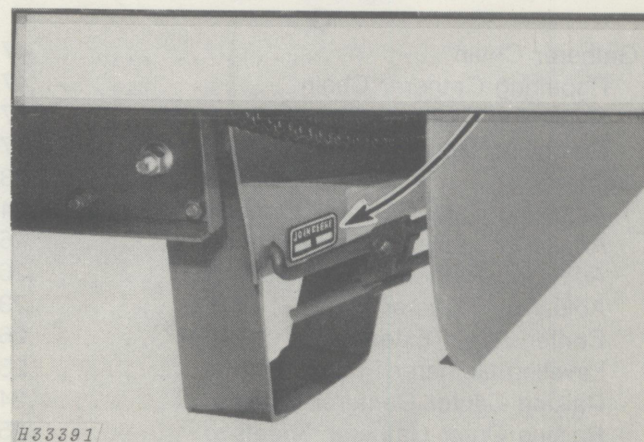
Record your corn head serial number in the space provided on the illustration. Provide this serial number to your dealer when ordering parts.



344, 443, 444, 543, 546, 643, 644, 645, 843 and 844
Corn Heads



844 Only



243, 244, and 343 Corn Heads



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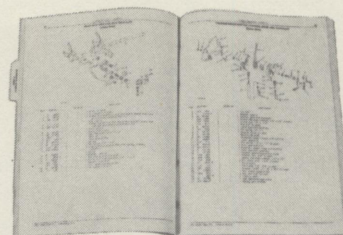
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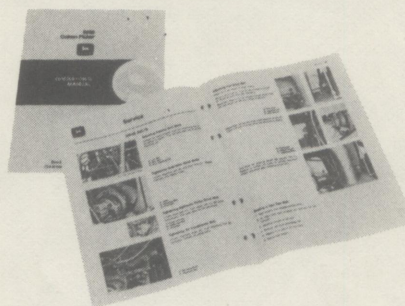
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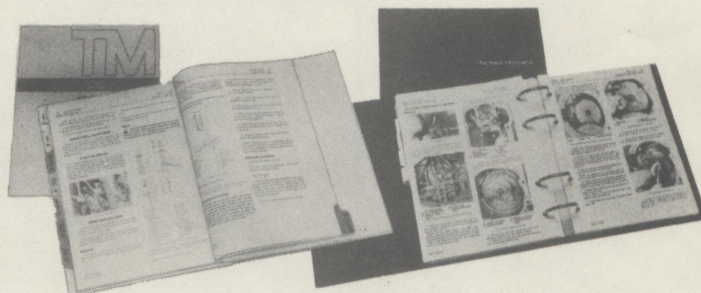
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OPERATOR'S MANUAL



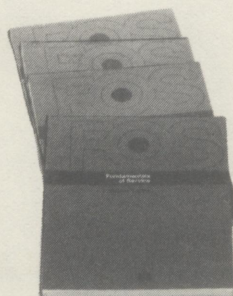
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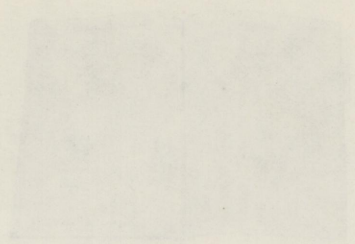
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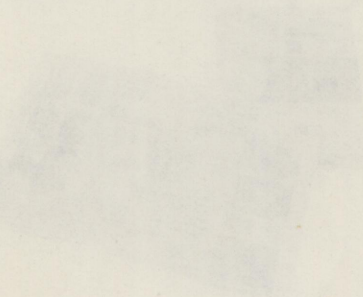
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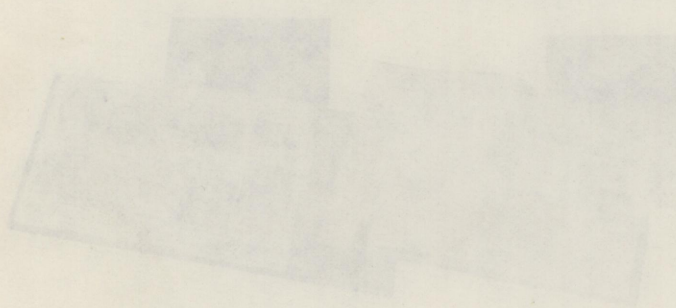
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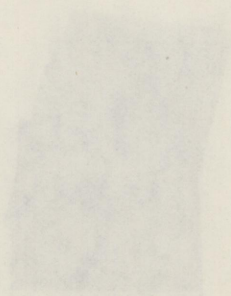
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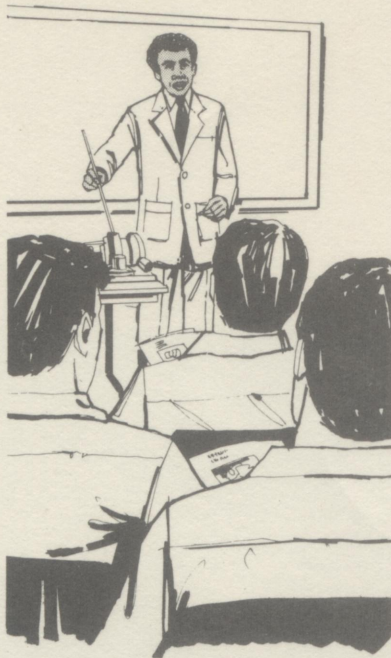
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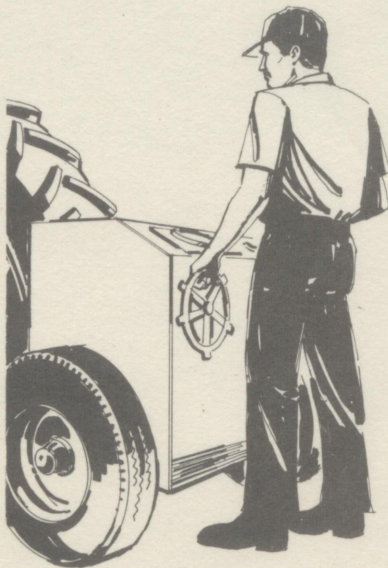
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